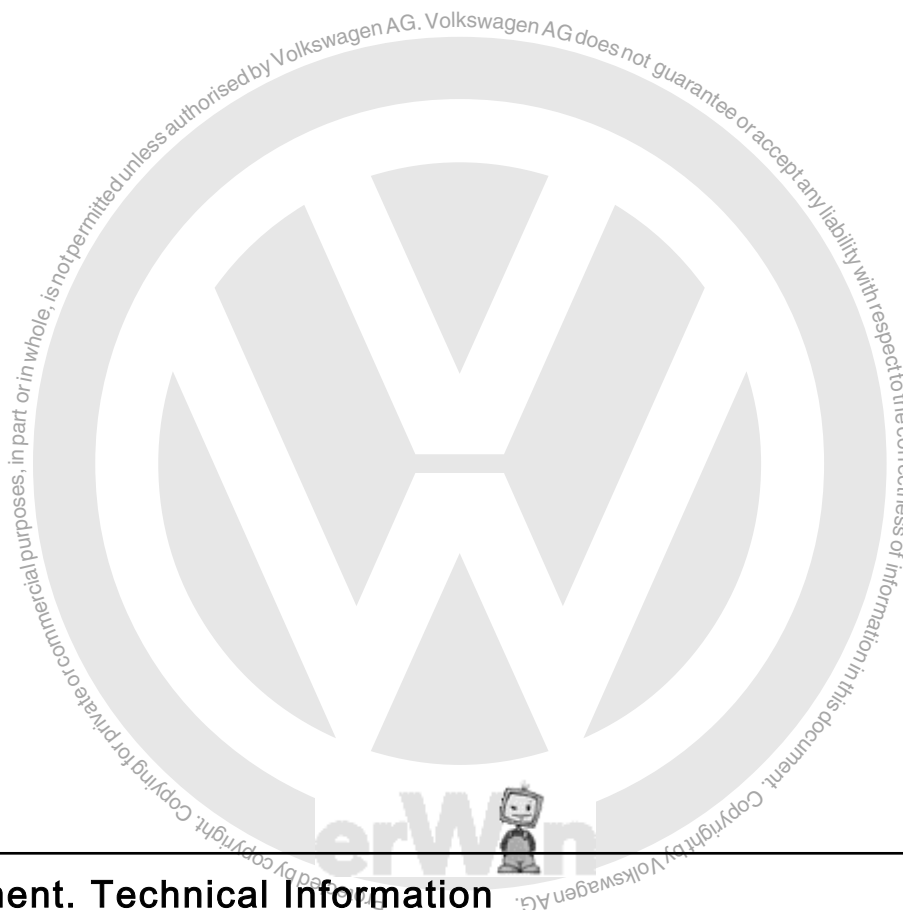




## Body Repairs Golf Variant 2010 ➤

Edition 07.2014





## Repair Group overview for Body Repairs

### Repair Group

- 00 - General, Technical Data
- 50 - Body Front
- 51 - Body Center, Chassis, Roof
- 53 - Body Rear

Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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## 00 – General, Technical Data

### 1 General Information

(Edition 07.2014)

This repair manual only describes selected labor operations. If labor operations are not described, proceed as follows: separate the original joint and recreate it with the Replacement Part. Repairs using methods that differ from the original manufacturing process are described.

If sub-parts are delivered, fit them and butt weld them using a gas-shielded arc continuous weld seam.





## 2 Vehicle Data

⇒ "2.1 Vehicle Identification Number", page 2

⇒ "2.2 Type Plate", page 3

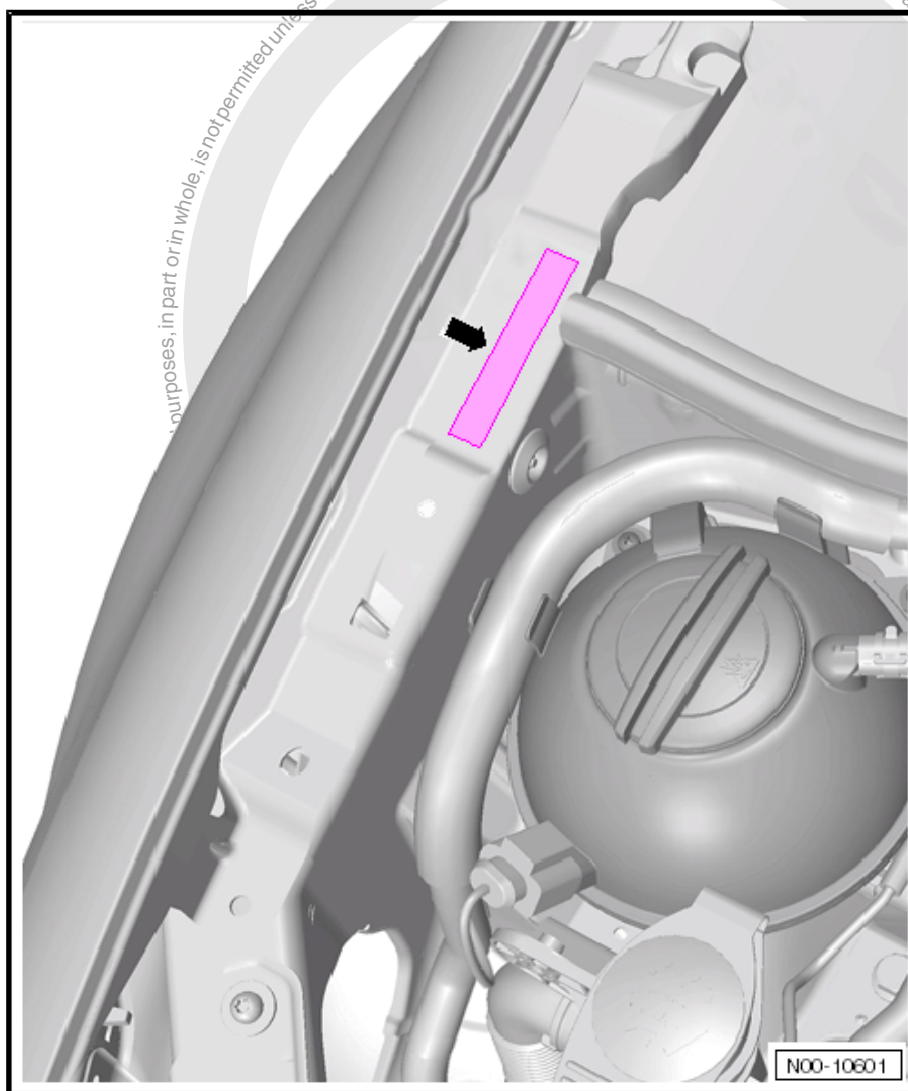
⇒ "2.3 Vehicle Data Label", page 4

### 2.1 Vehicle Identification Number



#### Note

*If a body part having the VIN on it must be replaced due to damage, service should be documented according to market requirements.*

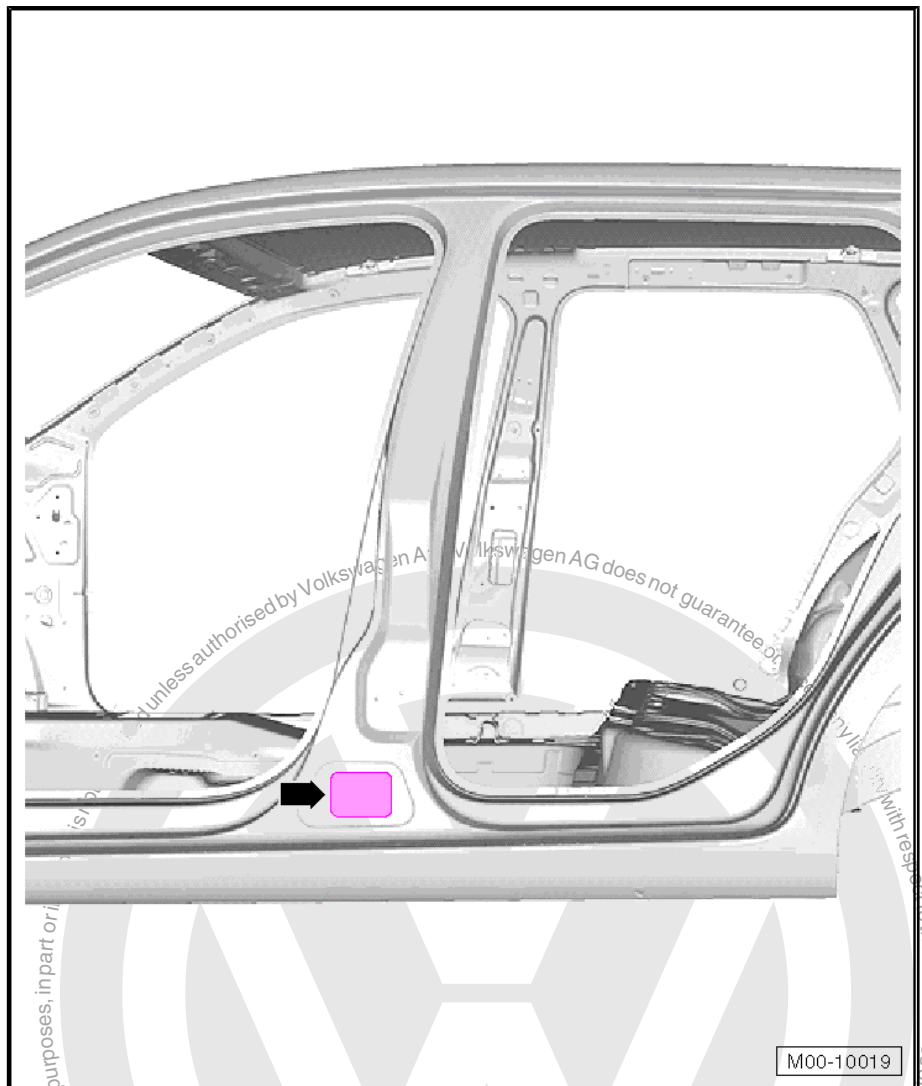


The Vehicle Identification Number (VIN) -arrow- is located on the right vehicle side in the area of the fender threaded connection.

Other Vehicle Identification Numbers (VIN) are located on right vehicle side on outer seat console and on forward edge of floor panel under rear seat bench.



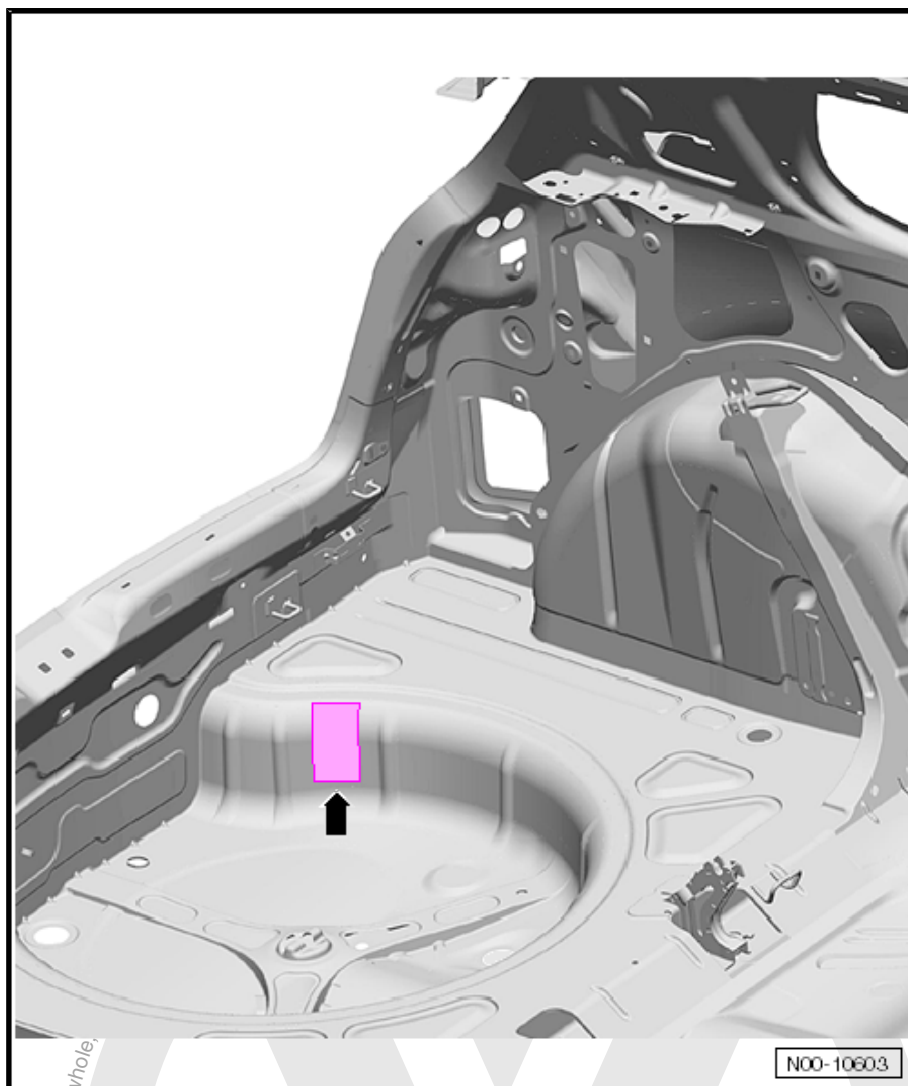
## 2.2 Type Plate



Data plate -arrow- is applied on B-pillar on left side and visible after opening the front door.



## 2.3 Vehicle Data Label



Vehicle data plate -arrow- is secured in spare wheel well on left side in direction of travel.



### 3 Safety Precautions

Welding and sanding must be carried out with ventilation.

Never weld and sand in any area at the same time.

Clean workplace regularly in proportion to the amount of dust.

Accumulated dust must not be blown away with compressed air.

The exhaust system must be cleaned regularly.

Follow all country-specific regulations regarding accident prevention and safety on the workplace.





## 4 General Information

This repair manual only describes selected labor operations. Repairs using methods that differ from the original manufacturing process are described.

For labor items not described: cut the original joint and recreate it with the Replacement Part.

If sub-parts are delivered, fit them and butt weld them using a gas-shielded arc continuous weld seam.

Follow the information in the Body Collision General Information repair manual, refer to ⇒ General Information; Body Repairs, Body Collision Repair I .





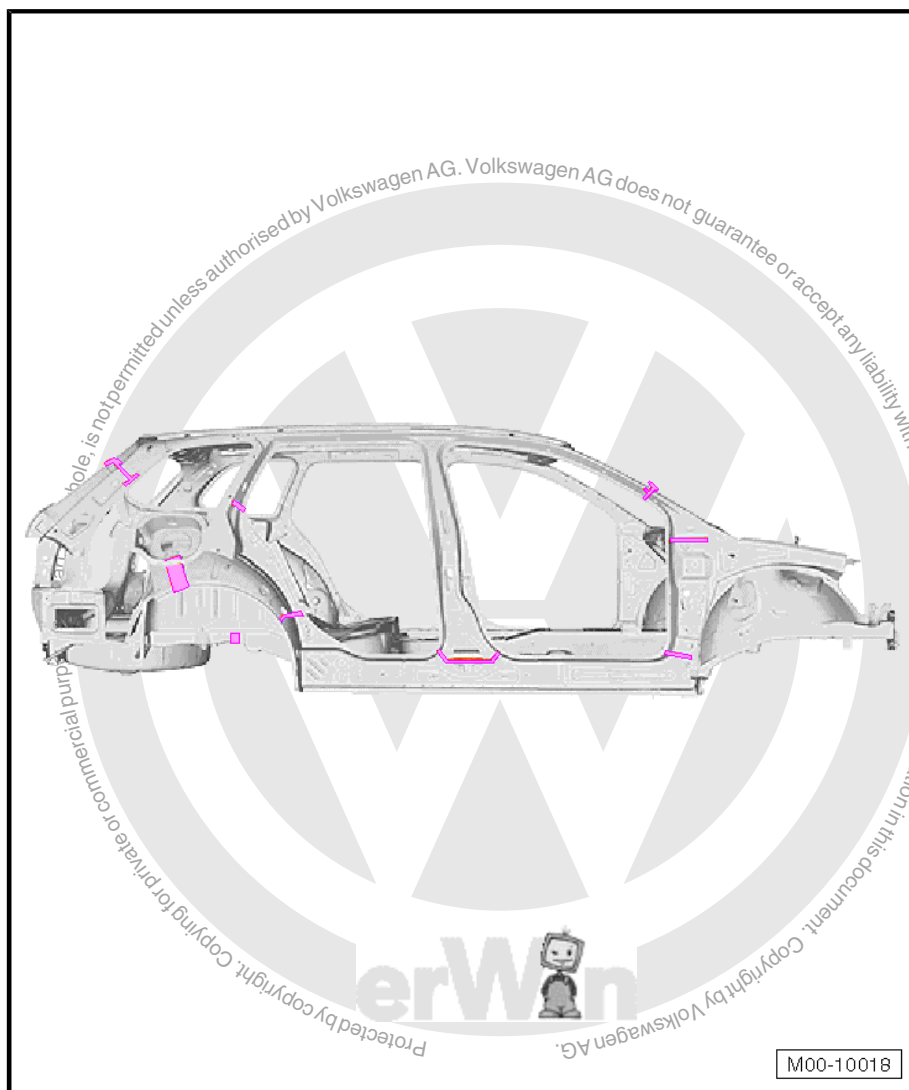


## 5 Molded Foam Parts

Various hollow body areas are equipped with molded foam parts in this vehicle.

The transfer of driving noises into the passenger compartment are reduced by molded foam parts.

Molded pieces are installed in the body shell work and increase in volume after priming in the paint drying-oven from approx. 180 °C (356 °F).



Exact positions of molded foam parts are depicted at the beginning of the respective repair descriptions.



### Note

*Replacement Parts made of foam will react and foam only when the temperature is approximately 180 °C. For this reason, use Butyl Sealing Cord - AKL 450 005 05- or 2K Filler Foam - D 506 KD1 A3- for positioning the molded foam parts when performing a repair.*



### Do the Following When Performing A Repair:

- Remove excess foam from vehicle.
- Apply corrosion protection, refer to ⇒ Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials

### Precondition

Before performing these work steps, the sheet metal to be replaced must be prepared for installation, for example, by cutting, fitting, corrosion protection.

### Replacing Molded Foam Part.

Either reuse the molded foam part or cut it from the universal Partition - 000 864 663- .

Secure the molded foam part to the body using Butyl Sealing Cord - AKL 450 005 05- .

Then apply the Butyl Sealing Cord - AKL 450 005 05- or the 2K Filler Foam - D 506 KD1 A3- to the molded foam part.

Secure new part by gently pressing on it around the molded foam part until it makes contact and then weld it.

The foam hardens within 25 minutes.

Do not perform any gas-shielded welding 15 mm next to the molded foam part.

After painting vehicle, seal cavities in the area of the repair.



## 6 Laser Welds

On this vehicle, roof and body are partially welded by laser.

In laser welding, a high energy light beam is directed onto the weld point via optical lenses or fiber optics.

During the welding process, the upper plate is melted through and the lower plate is partially melted, thereby forming a weld without using any additional materials.

During repairs (except roof repairs), laser weld seams are replaced by gas-shielded arc continuous weld seams or straight-line spot weld seam.



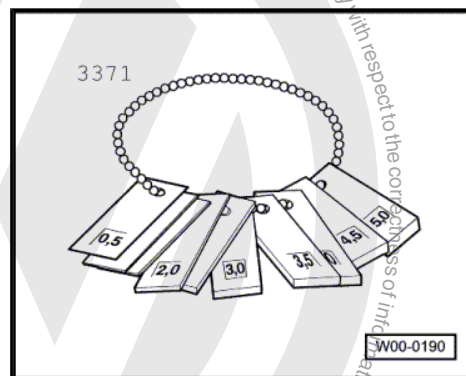


## 7 Body Gap Dimensions

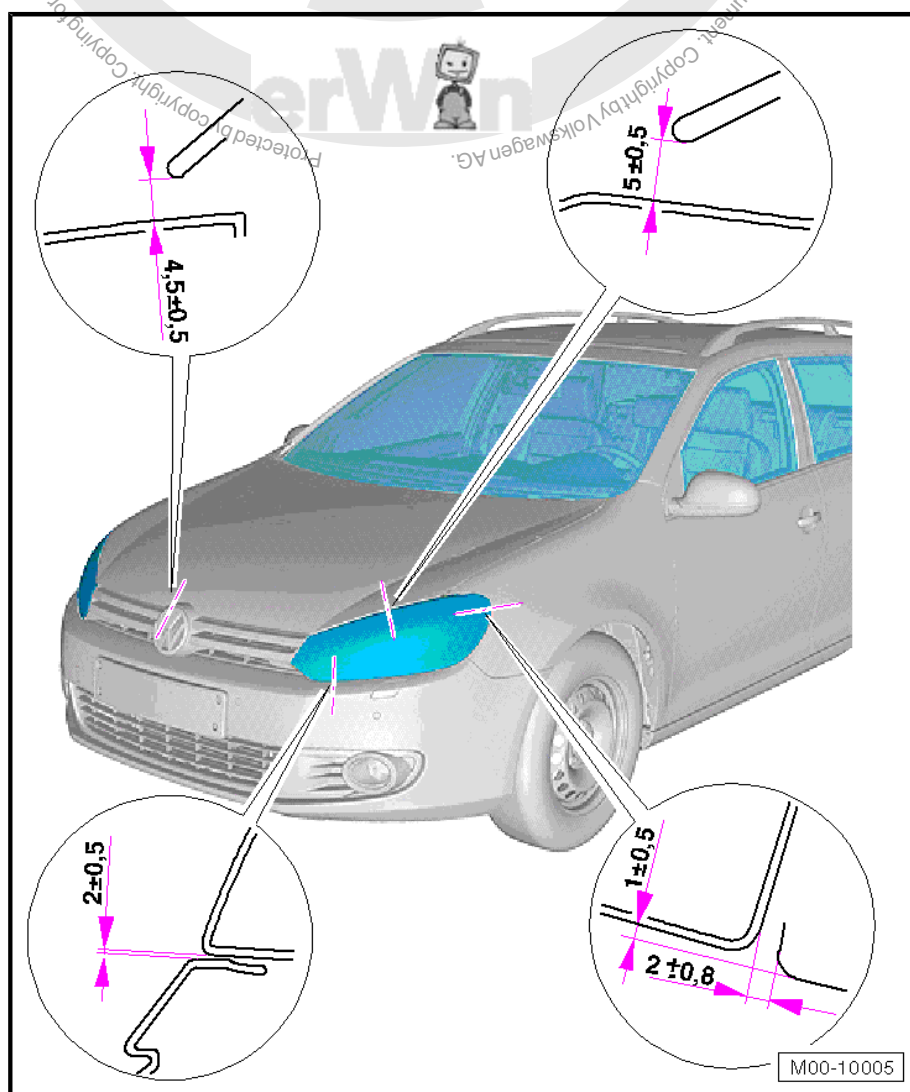


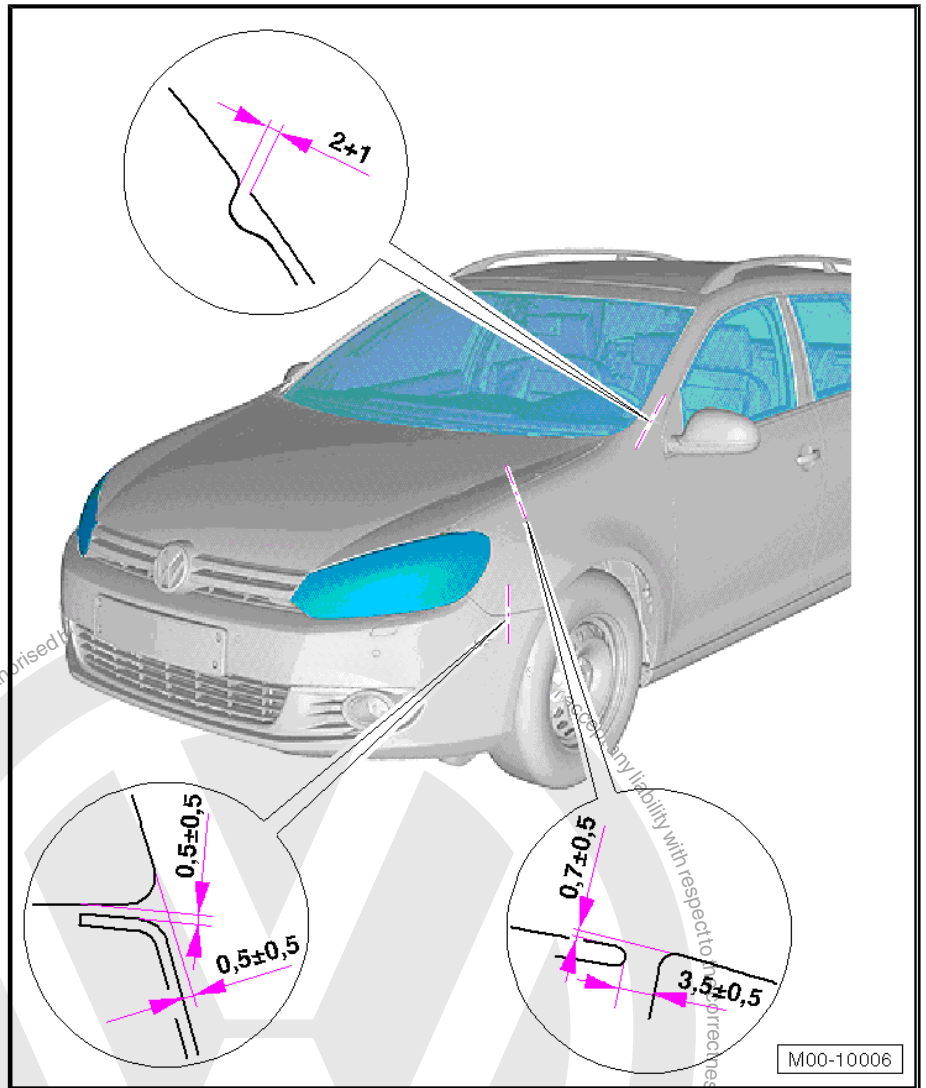
### Note

- ♦ To adjust or check panel gaps, use Gauge - Gap Adjustment - 3371-.
- ♦ Panel gaps are always indicated in mm.



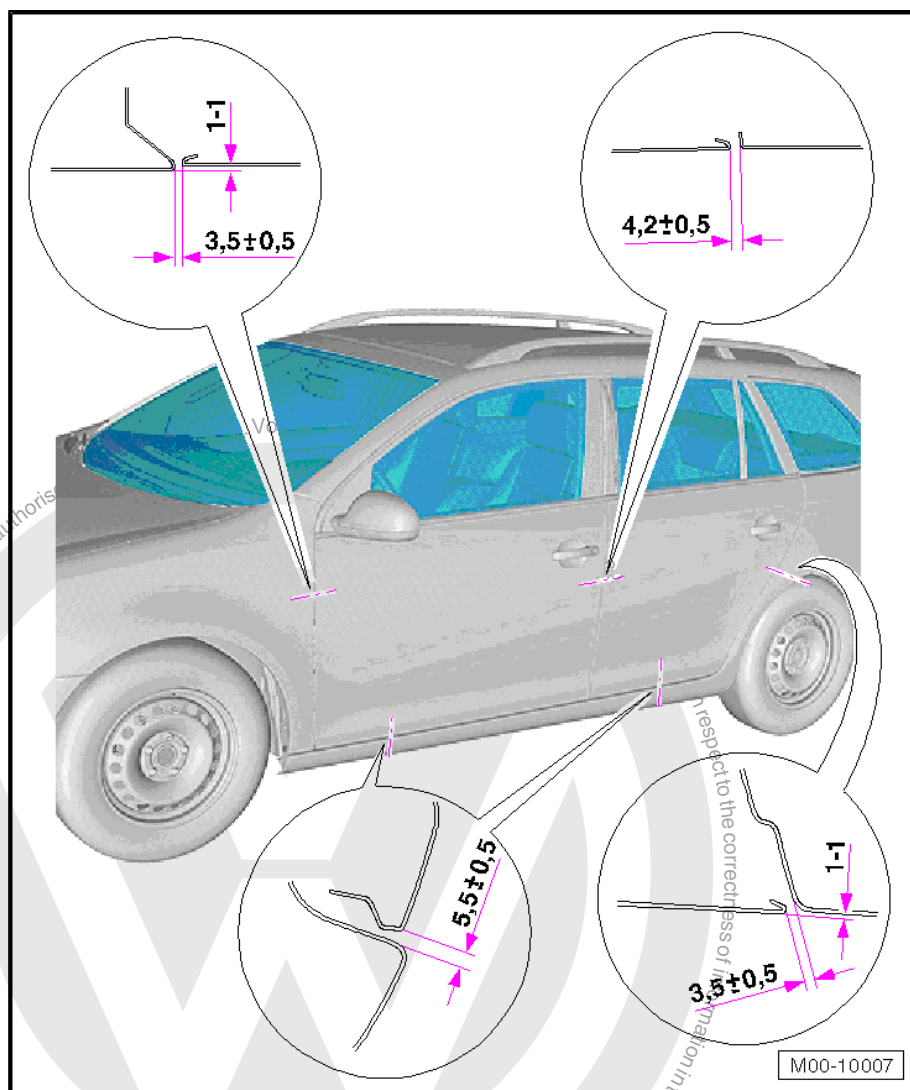
### 7.1 Body Front





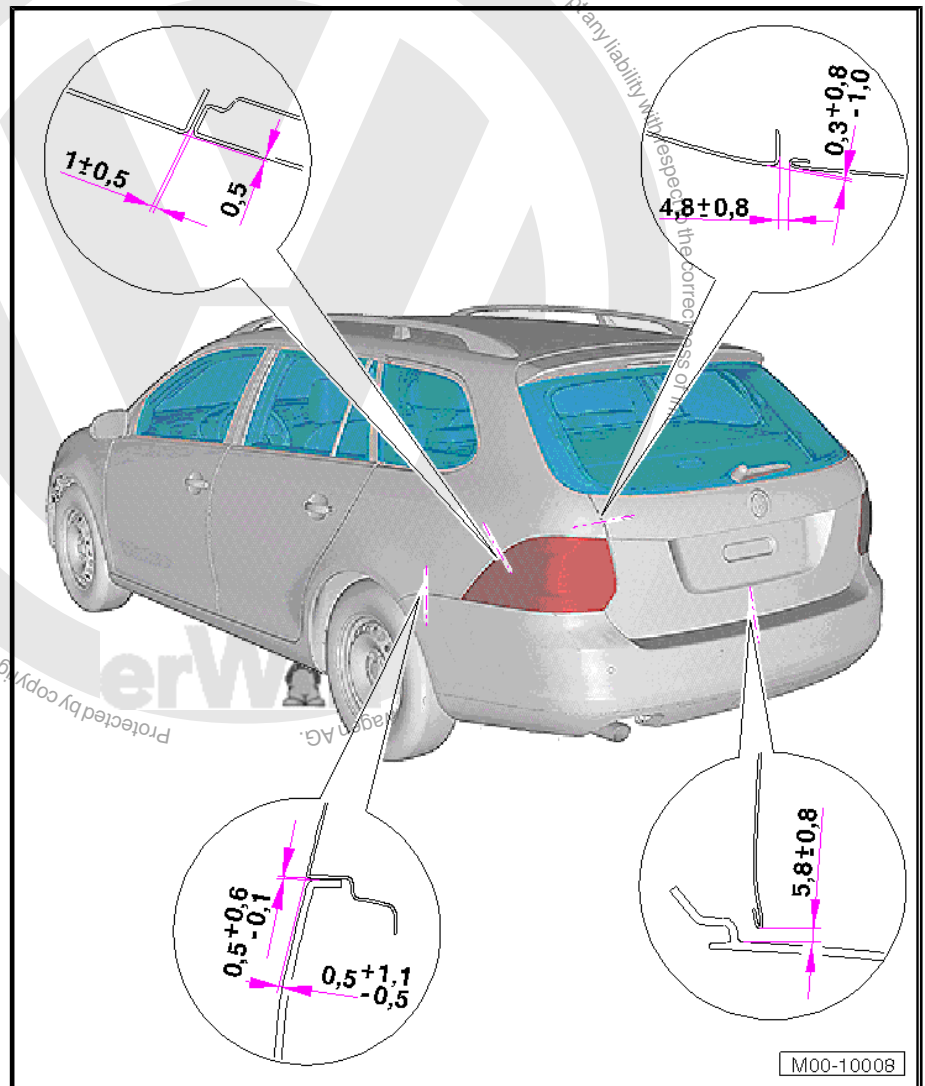


## 7.2 Body, Center





## 7.3 Body, Rear





## 8 Body Panel Dimensions

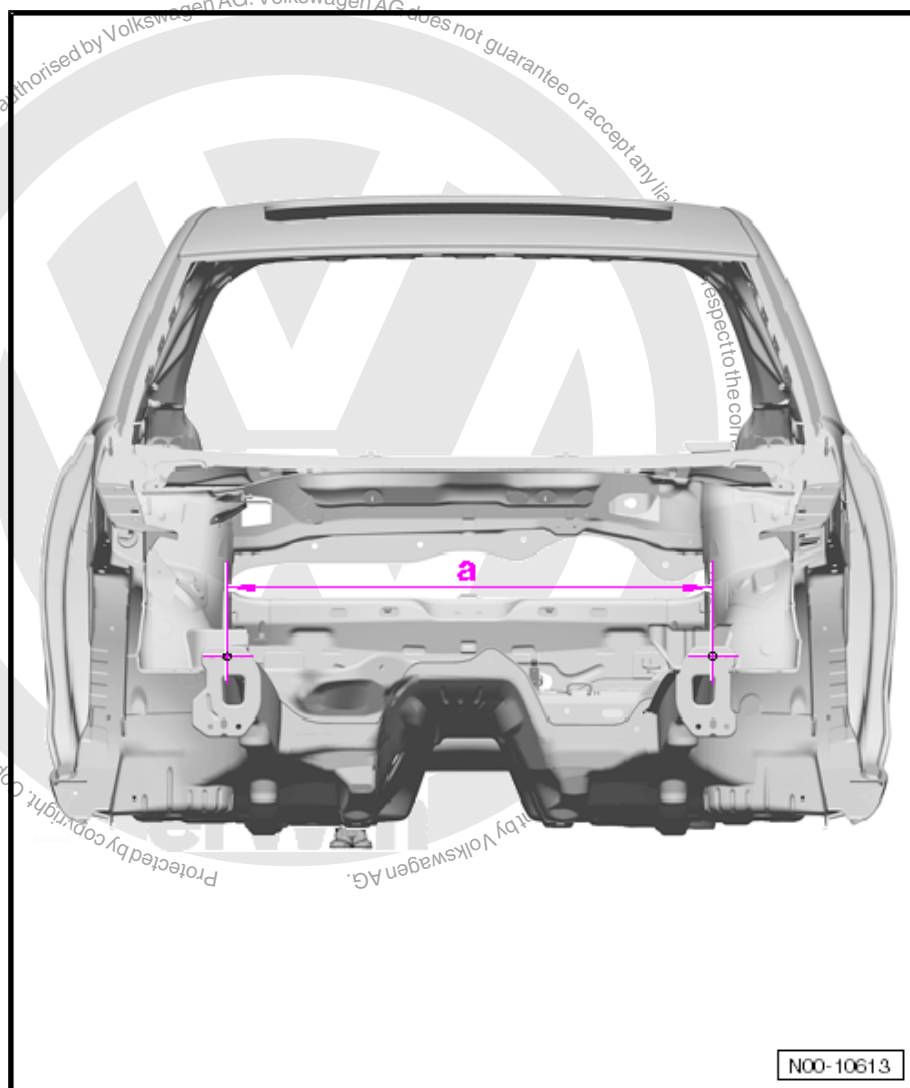


### Note

- ◆ The body dimensions serve only for inspection. The Straightening Bracket Set - VAS6240- , the Straightening Bracket Set - VAS6240/2- , the Straightening Bracket Set - VAS6240/5- and the Portal Gauge - VAS5007/25- are standard.
- ◆ Bolts, plugs, trim and attachments must be removed before the measuring procedure.
- ◆ Use the Telescoping Gauge - VAS5159- or the Telescoping Measuring Device - VAS5160- to determine the body dimensions.

### 8.1 Body Front

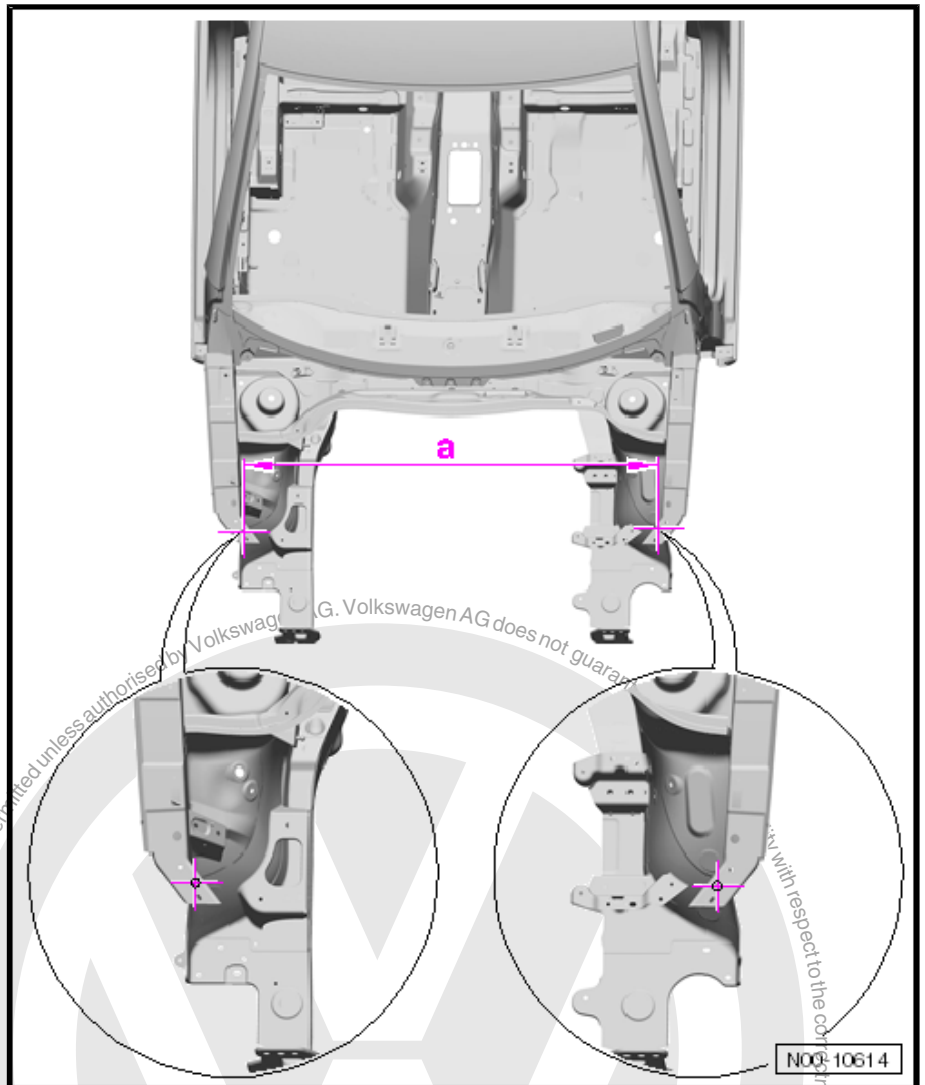
#### Front bumper mount



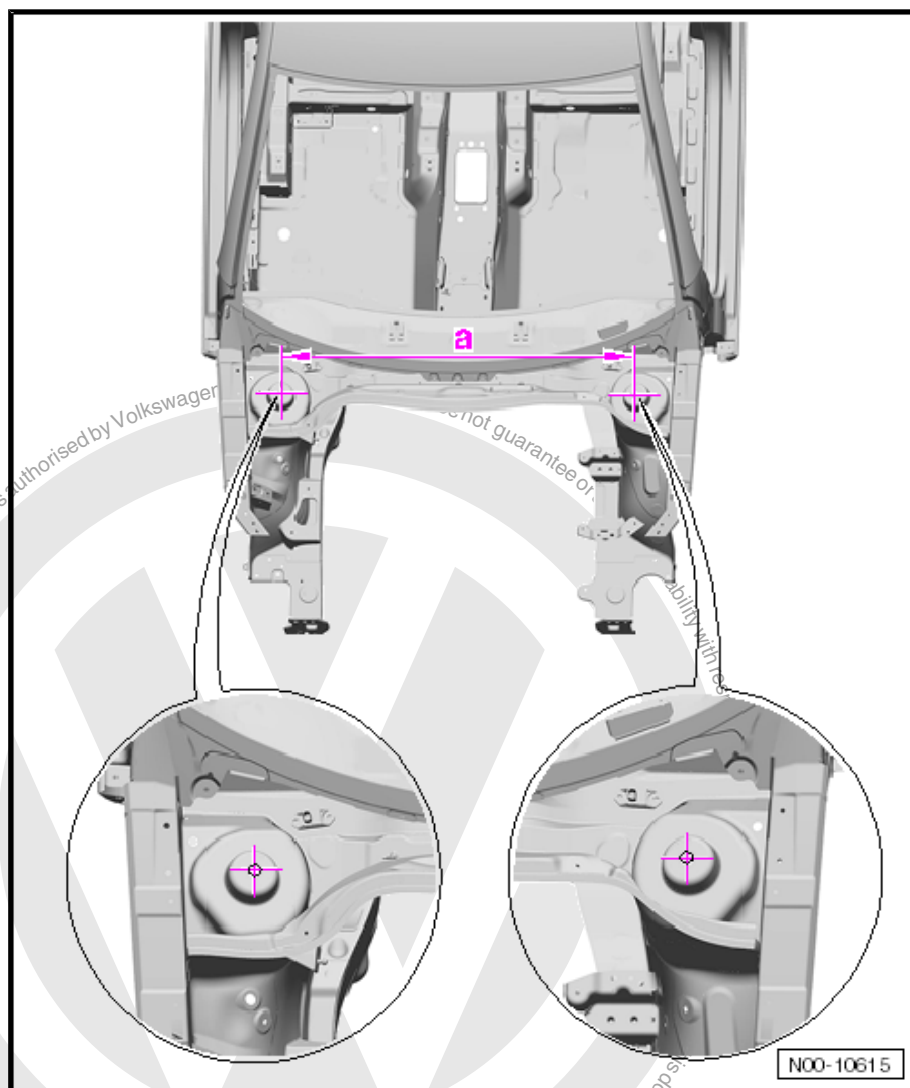
Dimension -a- = 990 mm ± 2.0 mm

Front upper longitudinal member





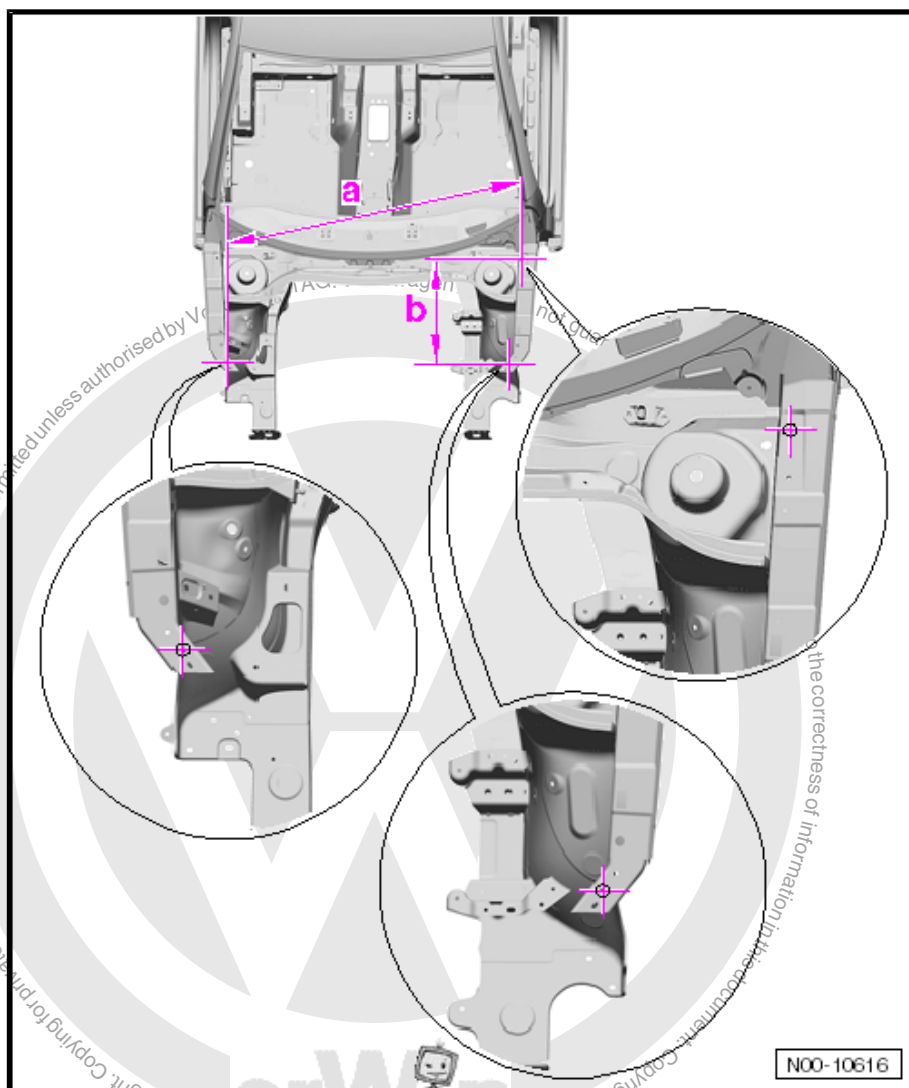
Dimension -a- = 1292 mm  $\pm$  2.0 mm  
Suspension strut tower mount



Dimension -a- = 1120 mm  $\pm$  2.0 mm

Engine compartment diagonal dimension

Upper Longitudinal Member



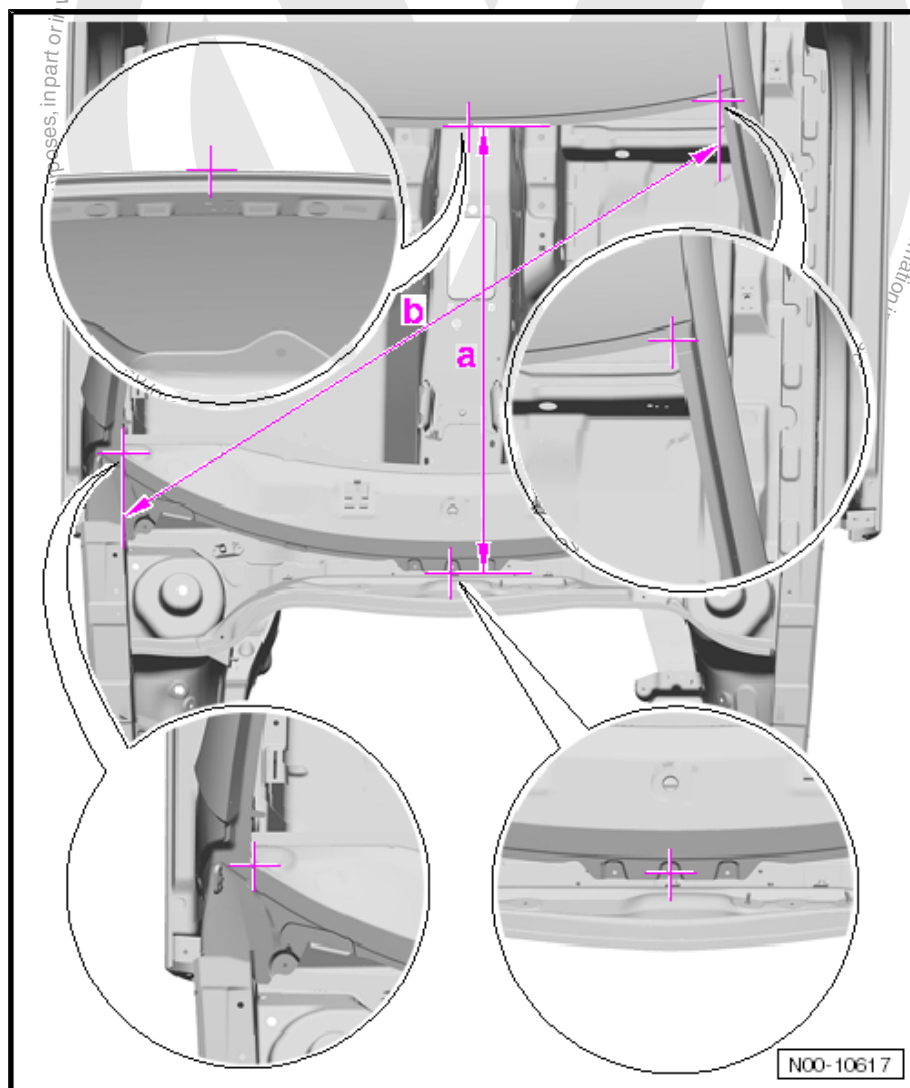


Dimension -a- = 1431 mm  $\pm$  2.0 mm

Dimension -b- = 487 mm  $\pm$  2.0 mm

## 8.2 Body, Center

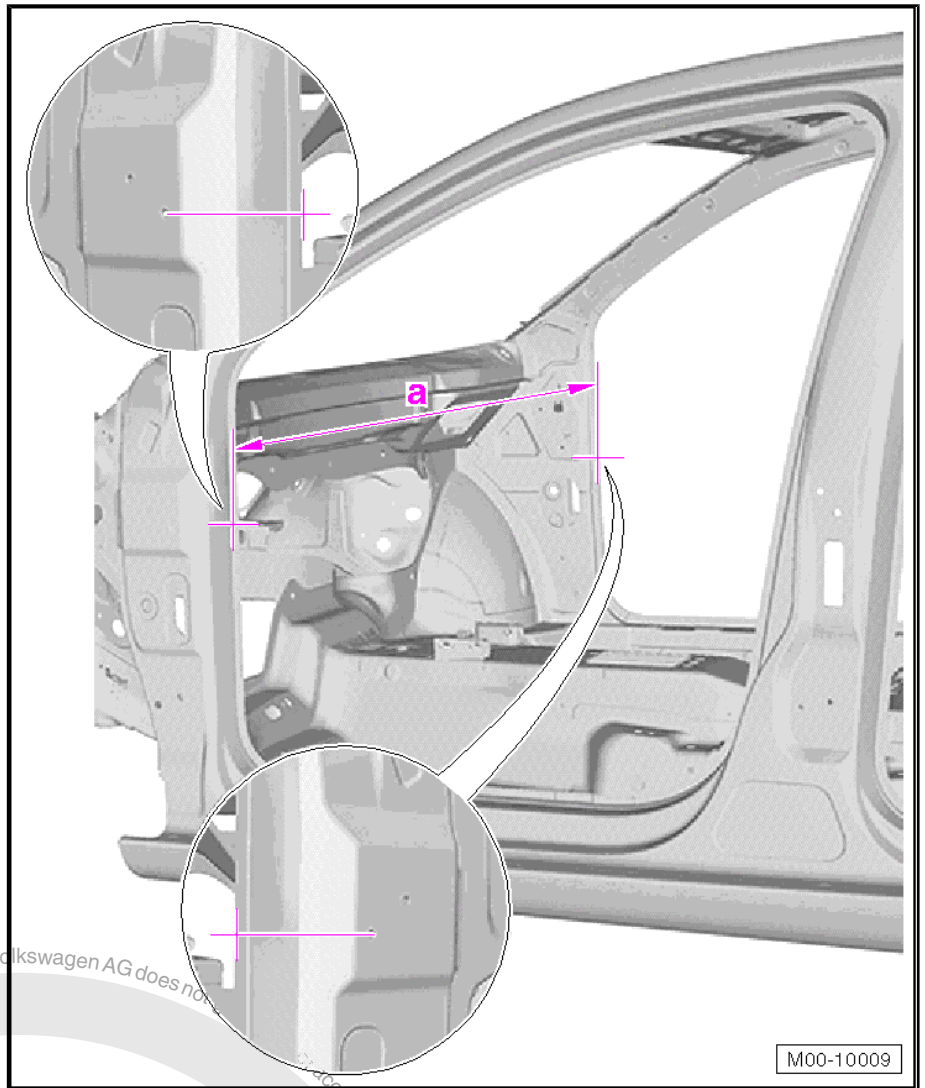
Windshield opening



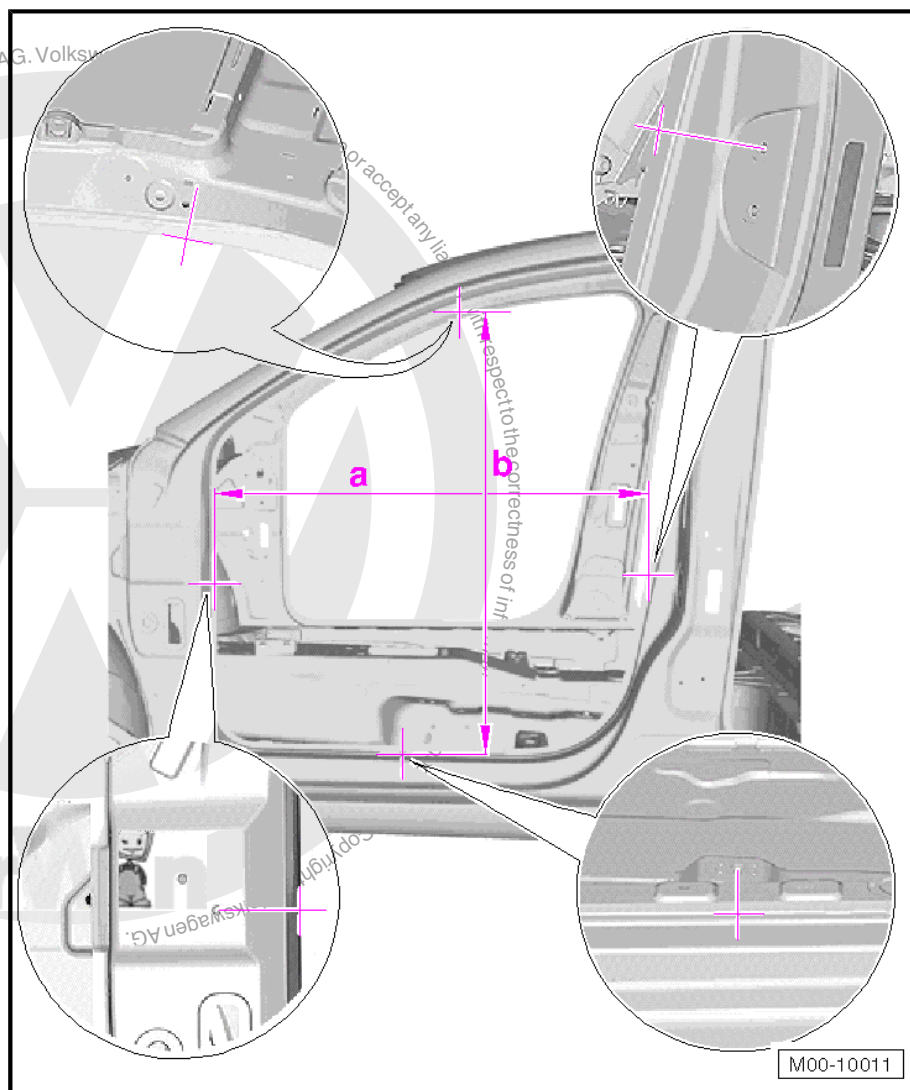
Dimension -a- = 883 mm  $\pm$  2.0 mm

Dimension -b- = 1448 mm  $\pm$  2.0 mm

Dimension between the A-pillars



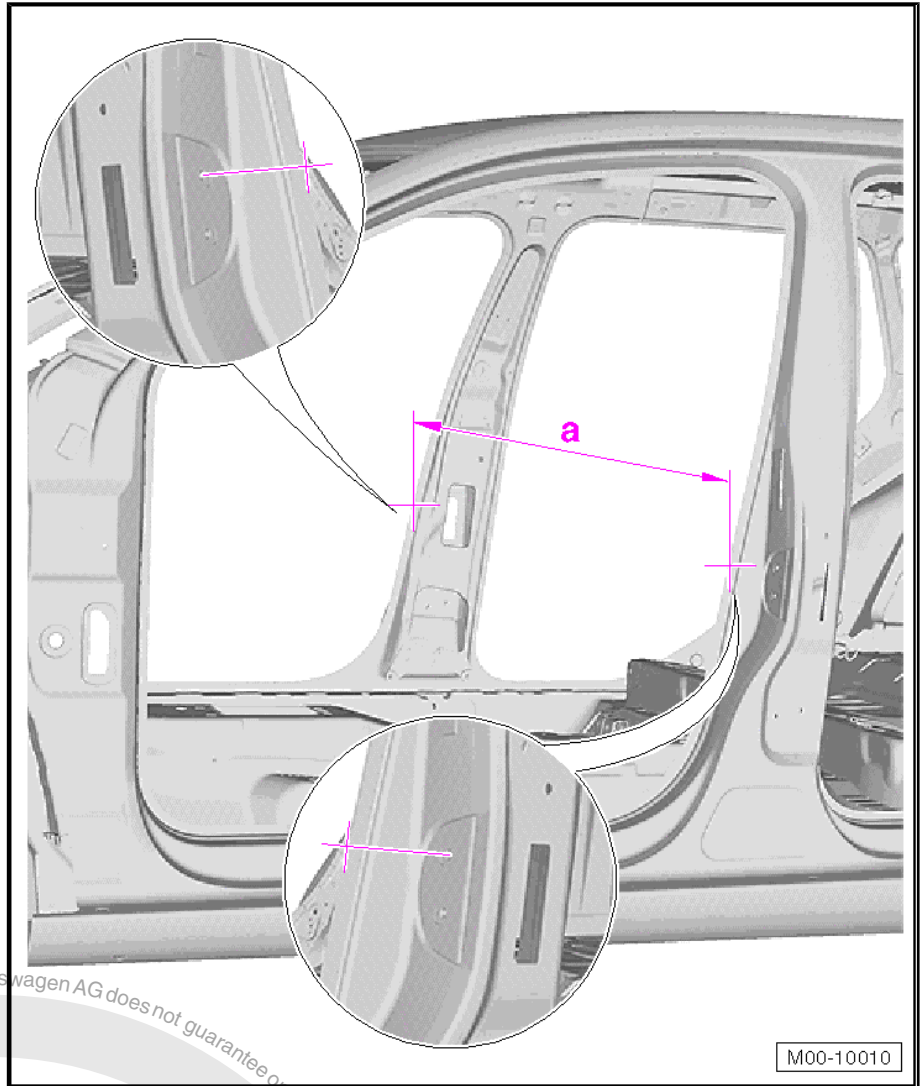
**Dimension -a- = 1424 mm  $\pm$  2.0 mm**  
**Front door opening**



Dimension -a- = 866 mm  $\pm$  2.0 mm

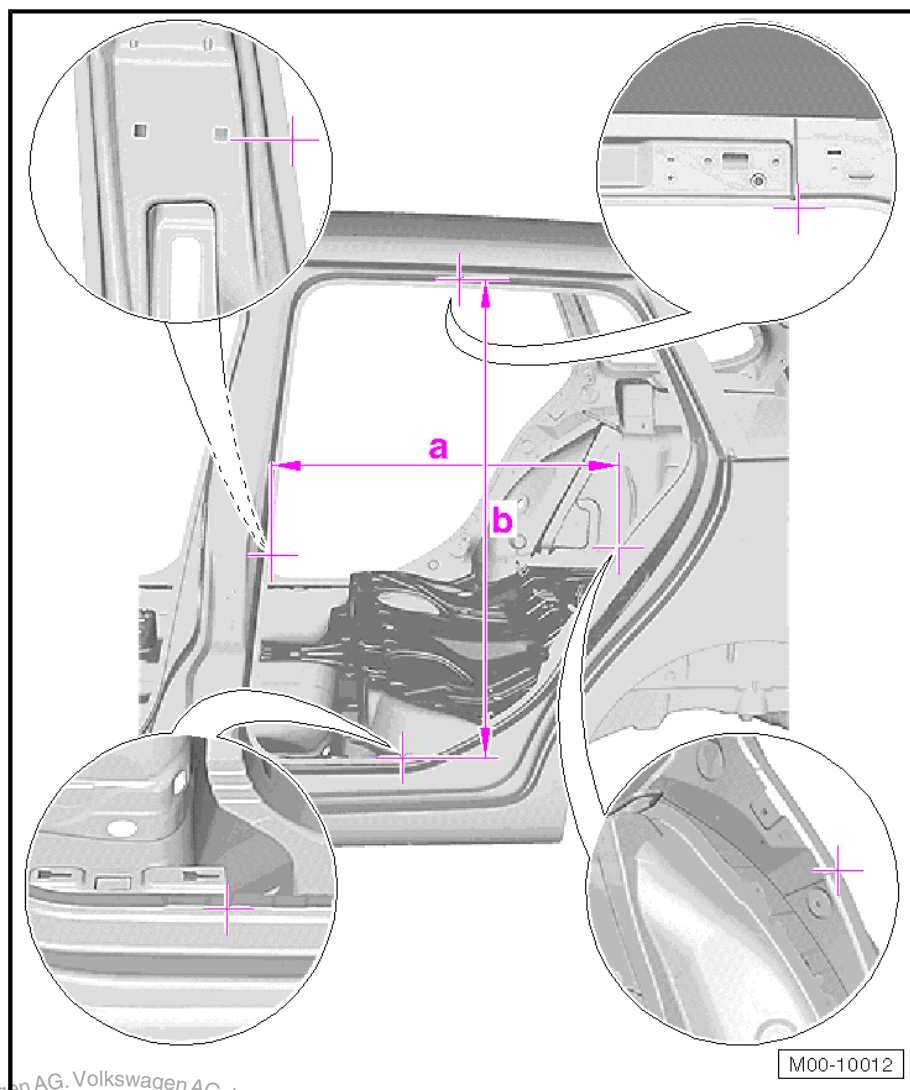
Dimension -b- = 936 mm  $\pm$  2.0 mm

Dimension between B-pillars



Dimension -a- = 1430 mm  $\pm$  2.0 mm  
Rear door opening



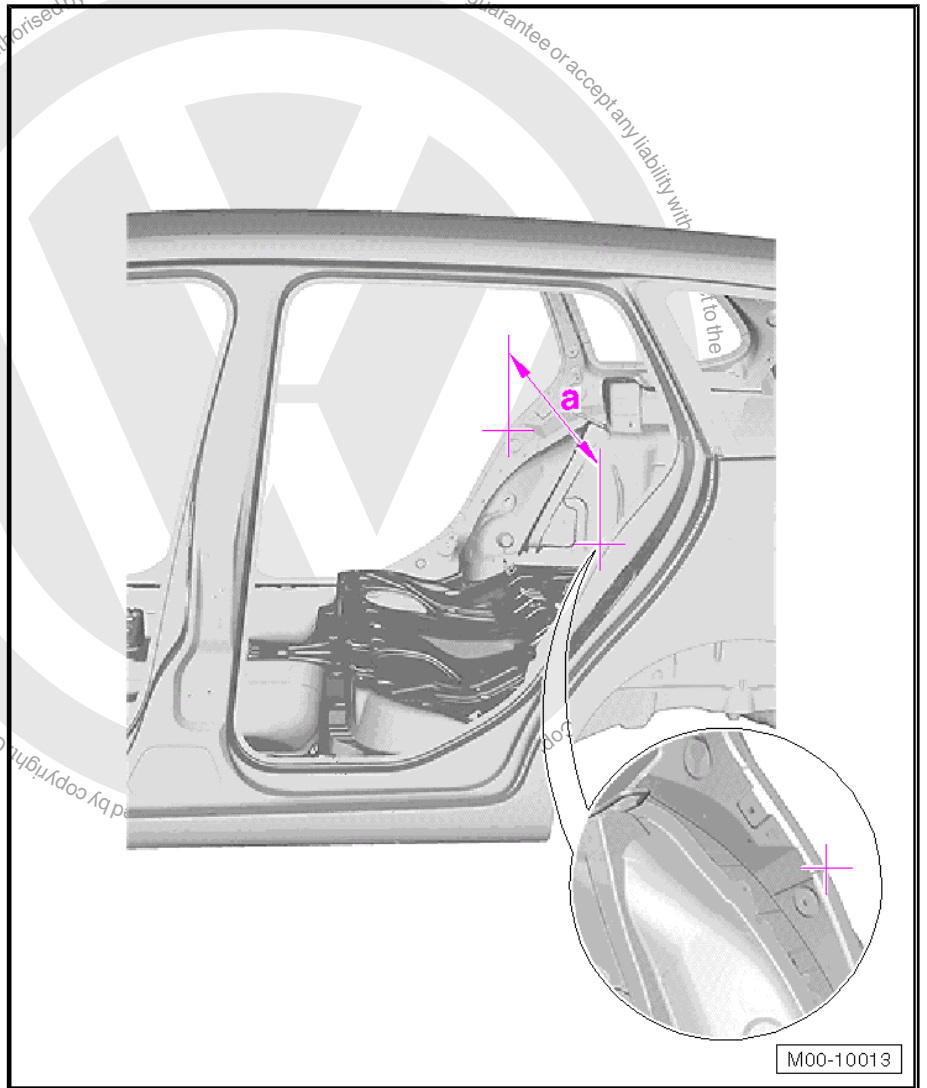


Dimension -a- = 970 mm  $\pm$  2.0 mm

Dimension -b- = 705 mm  $\pm$  2.0 mm

Dimension between C-pillars



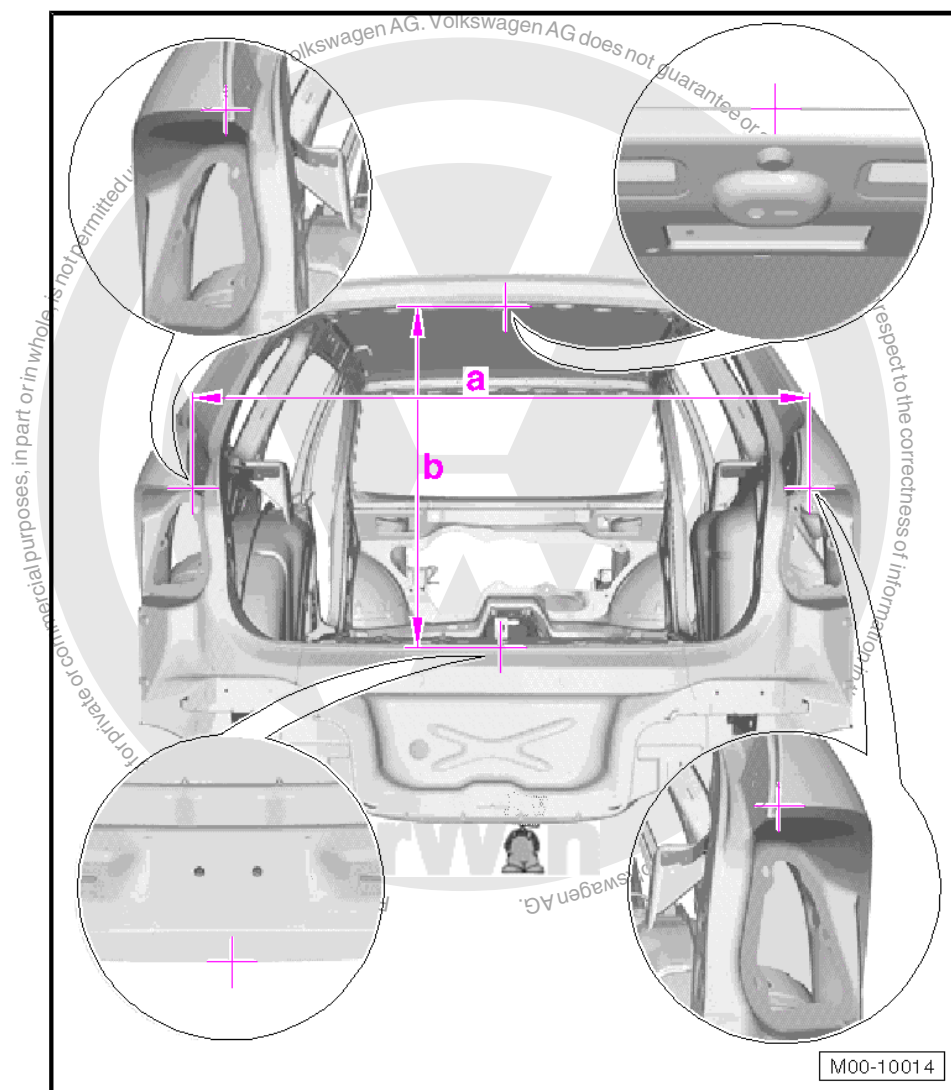




Dimension -a- = 1396 mm  $\pm$  2.0 mm

### 8.3 Body, Rear

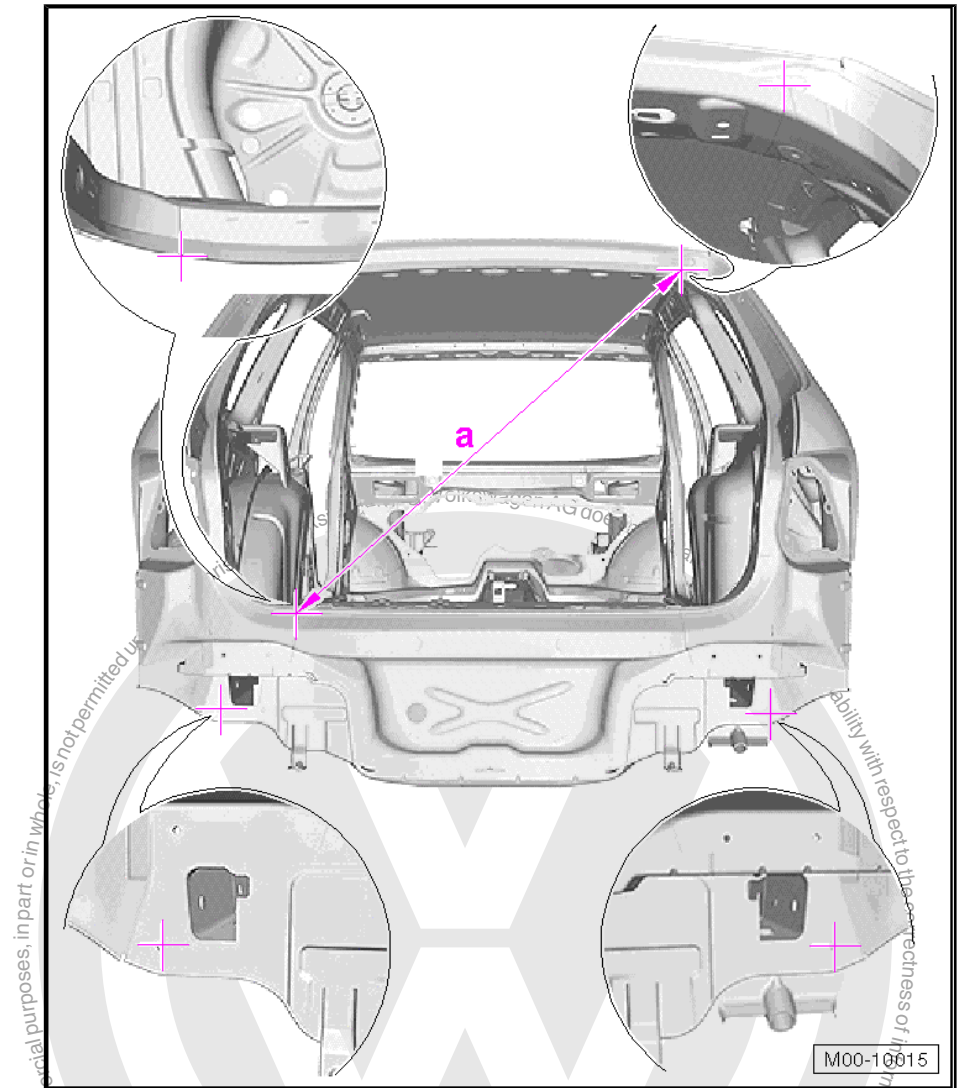
Rear lid opening



Dimension -a- = 1177 mm  $\pm$  2.0 mm

Dimension -b- = 877 mm  $\pm$  2.0 mm

Rear lid opening and longitudinal member



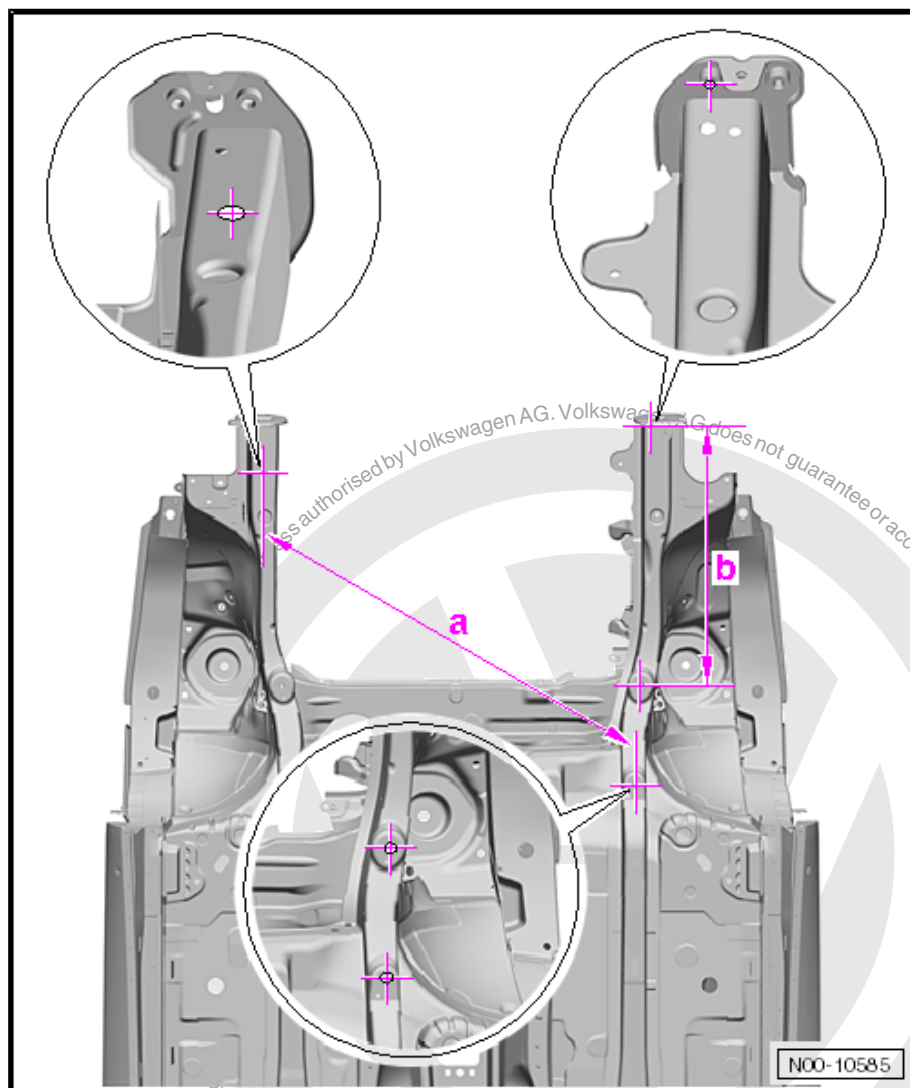


Dimension -a- = 1190 mm  $\pm$  2.0 mm

Dimension -b- = 1103 mm  $\pm$  2.0 mm

## 8.4 Front Floor Assembly

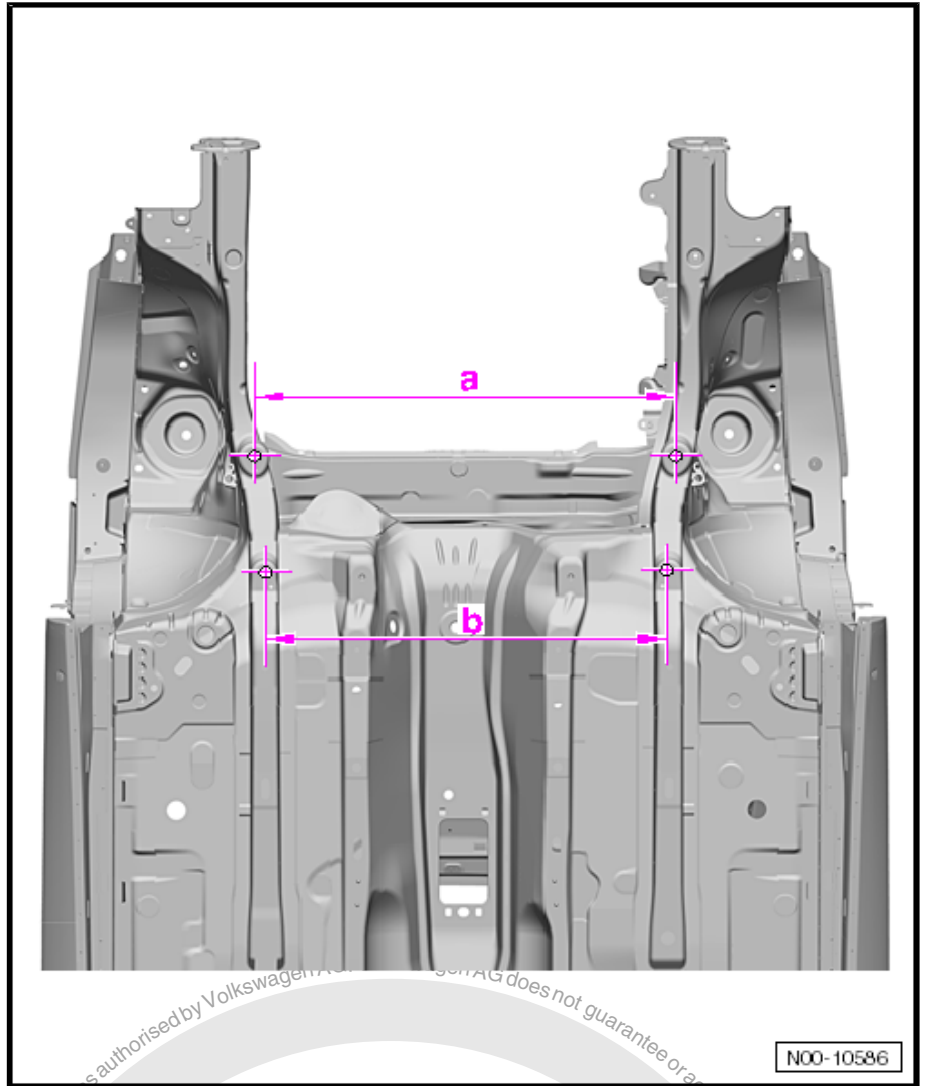
Front longitudinal member and lower front left longitudinal member



Dimension -a- = 1164 mm  $\pm$  2.0 mm

Dimension -b- = 630 mm  $\pm$  2.0 mm

Front subframe mount



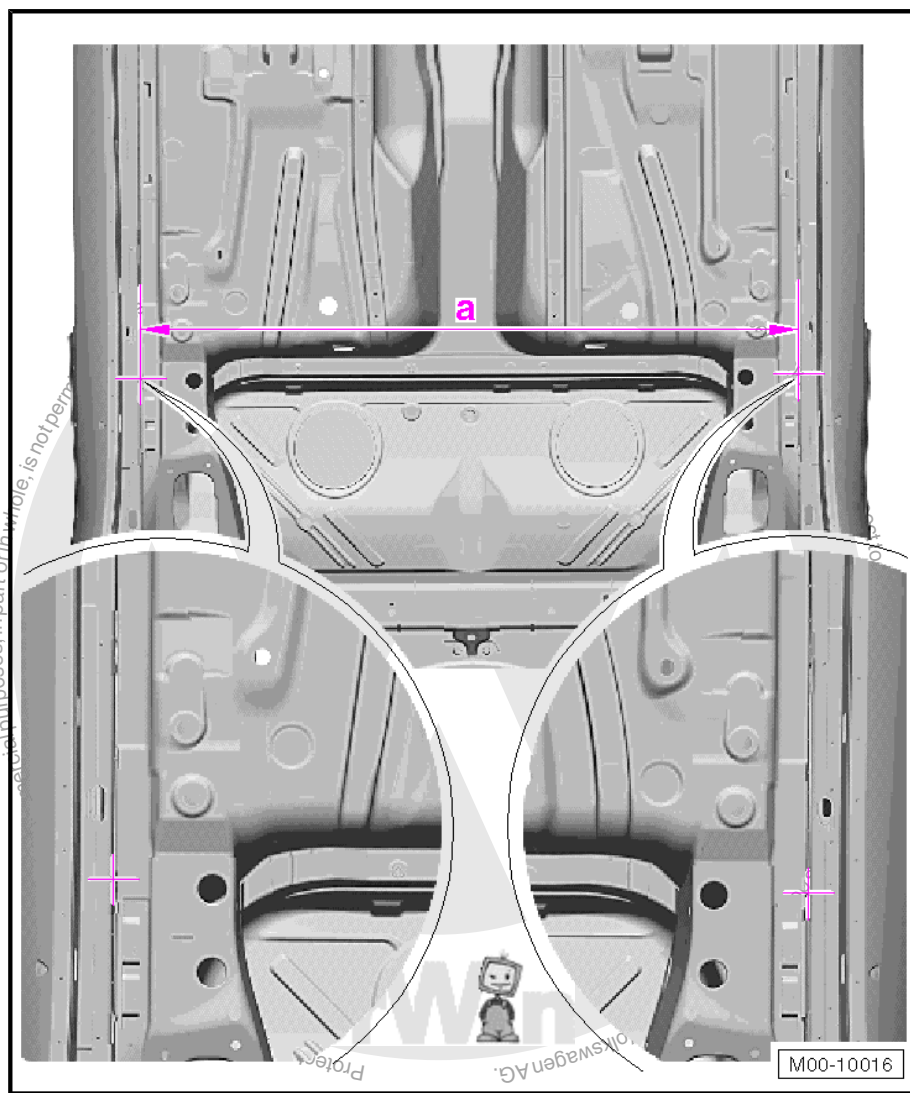


Dimension -a- =  $874 \pm 2.0$  mm

Dimension -b- =  $835 \pm 2.0$  mm

## 8.5 Center Floor Assembly

Underbody (B-pillar height)

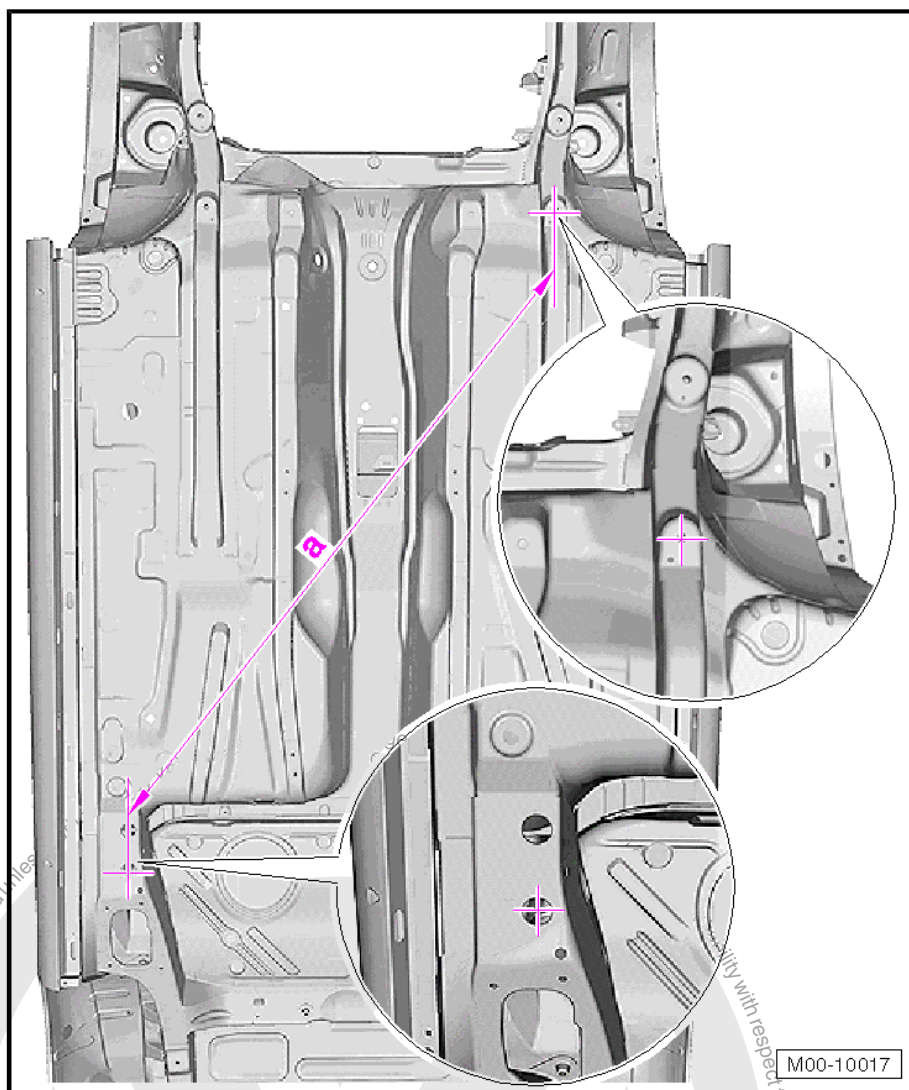


### Note

*Is measured on inner side of body flange.*

Dimension -a- =  $1453 \text{ mm} \pm 2.0 \text{ mm}$

Center of the underbody



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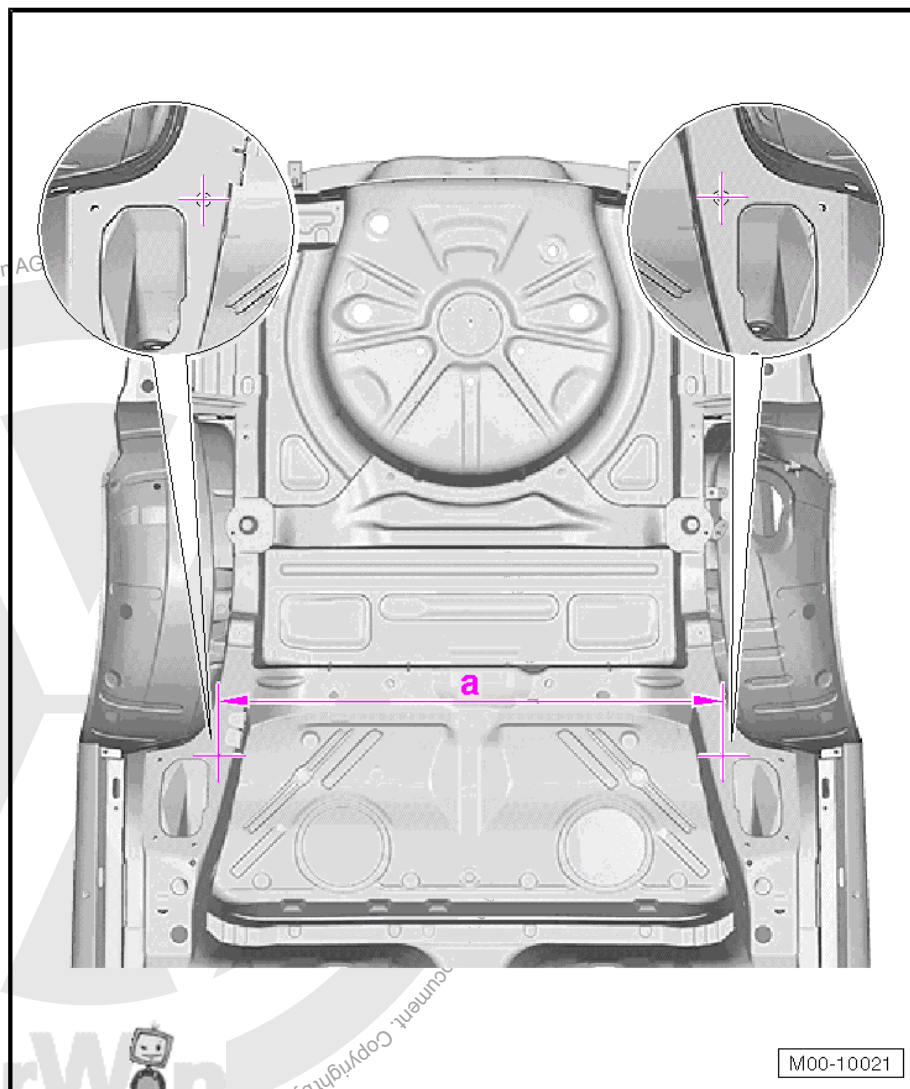




Dimension -a- = 1917 mm  $\pm$  2.0 mm

## 8.6 Rear Floor Assembly

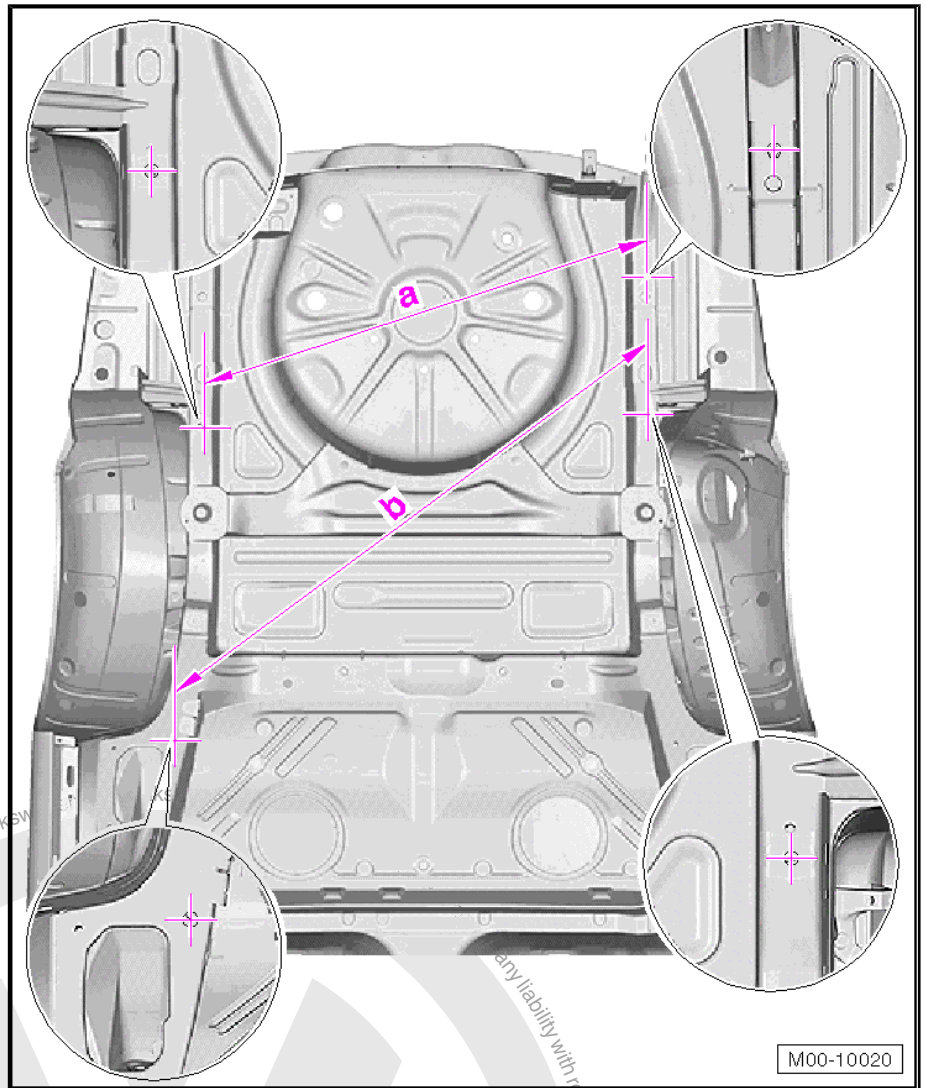
Mount, rear axle bracket



Dimension -a- = 1076 mm  $\pm$  2.0 mm

Rear longitudinal member diagonal

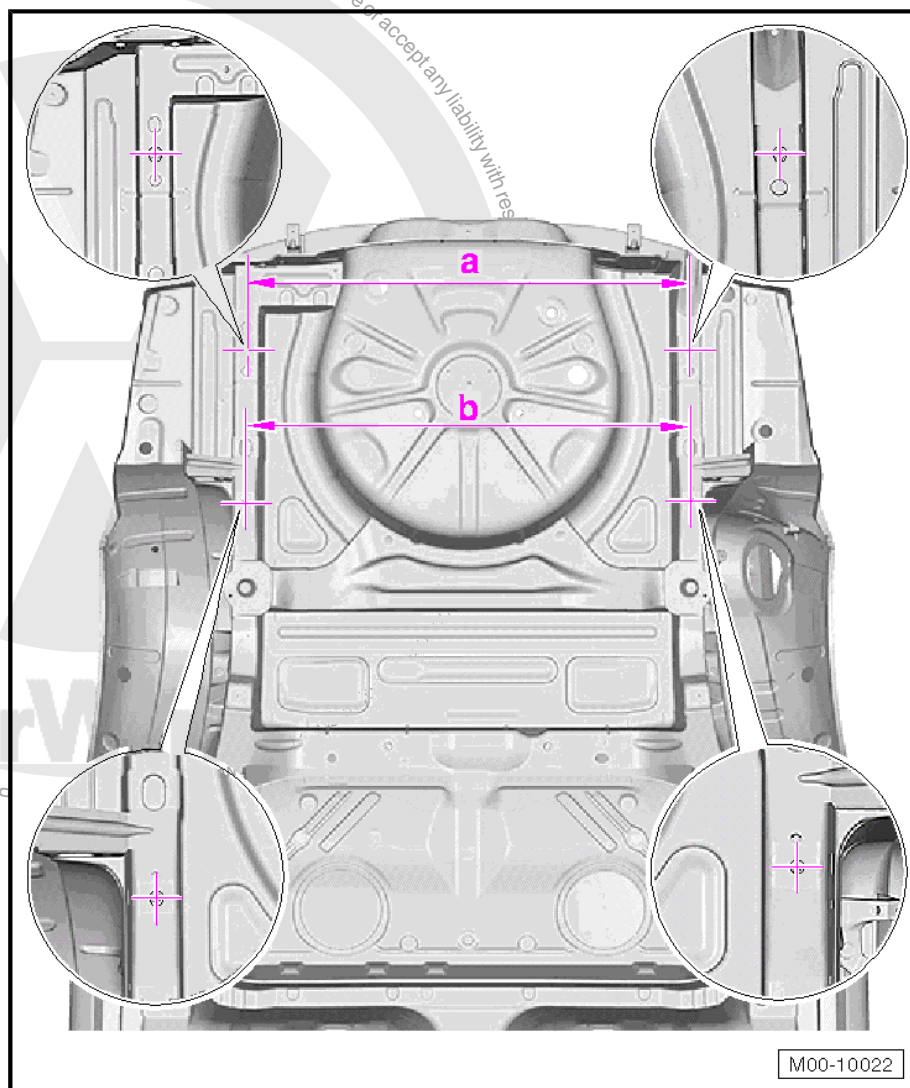




Dimension -a- =  $1043 \pm 2.0$  mm

Dimension -b- =  $1249 \pm 2.0$  mm

Rear longitudinal member



Dimension -a- =  $987 \pm 2.0$  mm

Dimension -b- =  $987 \pm 2.0$  mm



## 9 Straightening Rack

⇒ "9.1 Overview", page 33

### 9.1 Overview

Special tools and workshop equipment required

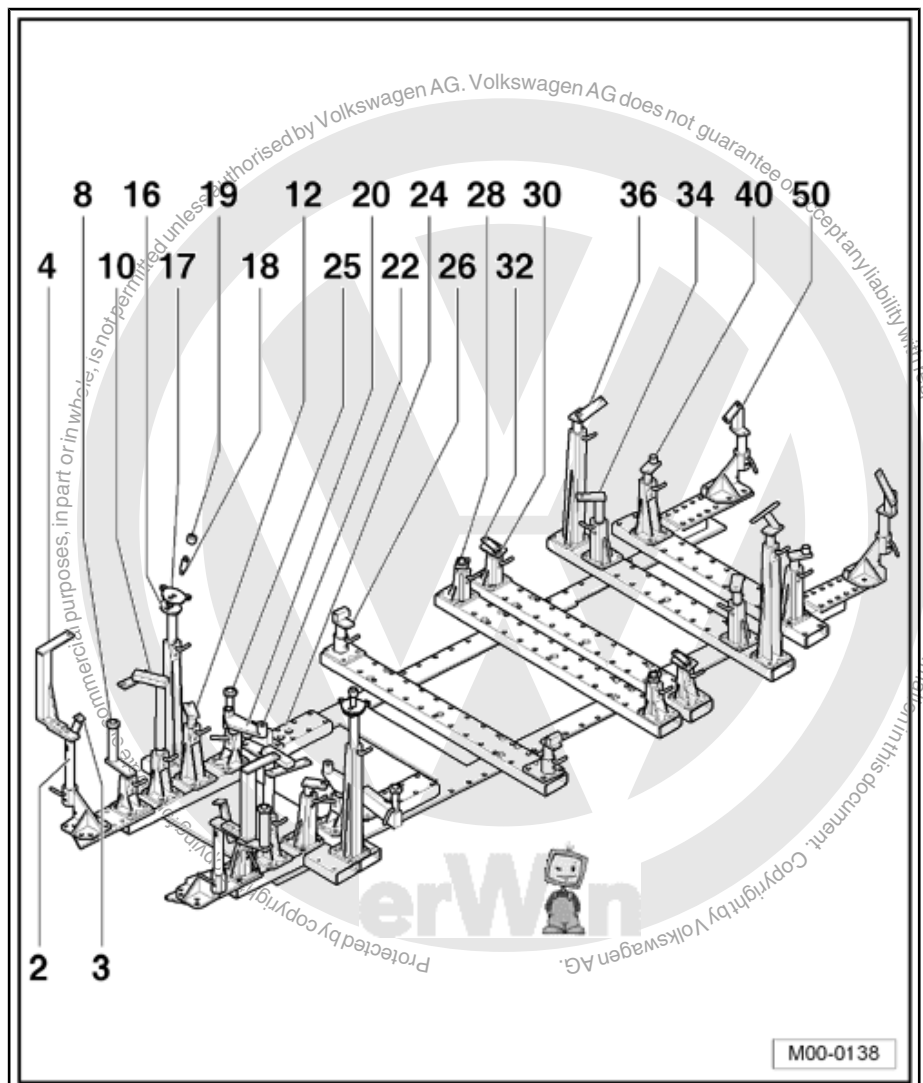
- ◆ Straightening Bracket Set - VAS6240-
- ◆ Straightening Bracket Set - VAS6240/2-
- ◆ Straightening Bracket Set - VAS6240/5-



Note

Refer to assembly plan supplied with alignment bracket set for detailed information on the assembly.

- 2 - MZ 142 and TV 400
- 3 - Belongs to item 2
- 4 - Belongs to item 2
- 8 - MZ 140 and TV 400
- 10 - MZ 200
- 12 - MZ 260
- 16 - MZ 602
- 17 - Belongs to item 16
- 18 - Belongs to item 16
- 19 - Belongs to item 16
- 20 - MZ 140
- 22 - Belongs to item 20
- 24 - Front check hole of body
- 25 - Belongs to item 24
- 26 - MZ 80
- 28 - MZ 80 or MZ 140
- 30 - MZ 140
- 32 - Belongs to item 30
- 34 - MZ 200
- 36 - MZ 602
- 40 - MZ 260
- 50 - MZ 141 and TV 400



M00-0138



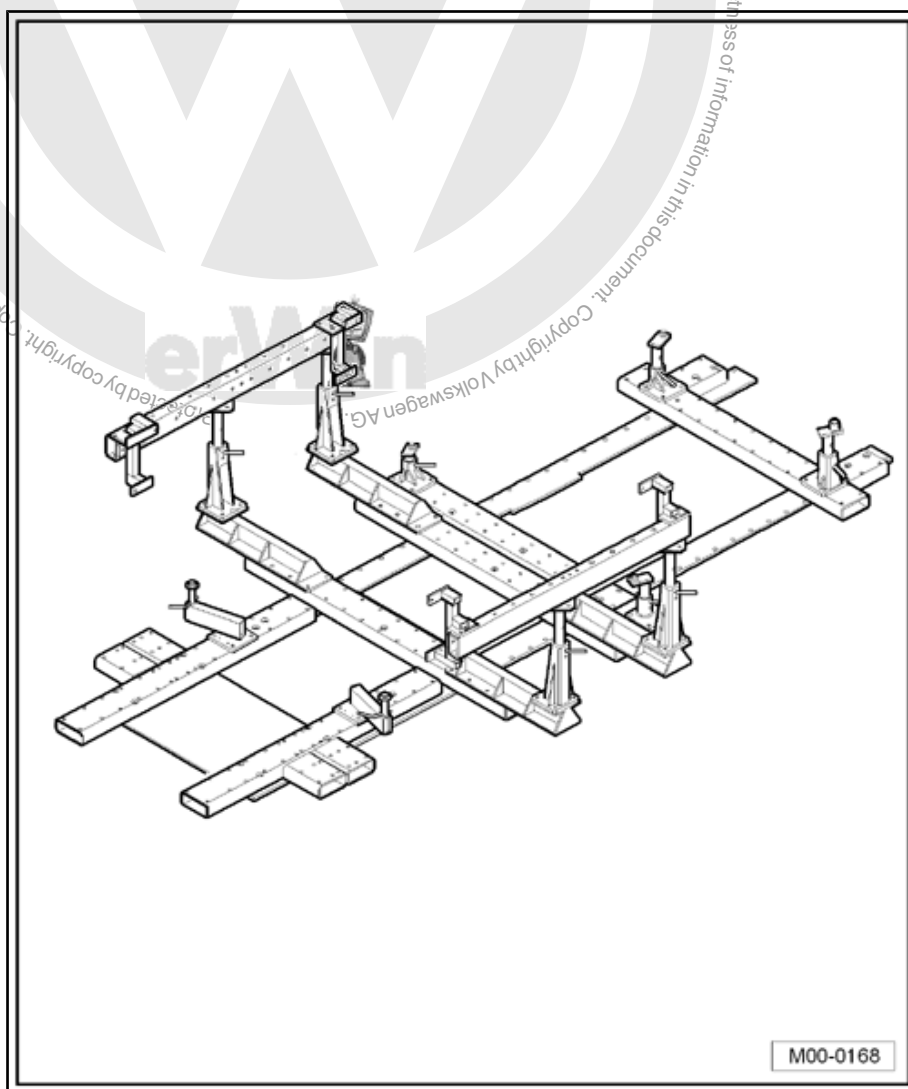
## 10 Portal Gauge

### Special tools and workshop equipment required

- ◆ Straightening Bracket Set - VAS6240-
- ◆ Straightening Bracket Set - VAS6240/2-
- ◆ Straightening Bracket Set - VAS6240/5-
- ◆ Portal Gauge - VAS5007-

### 10.1 Front Door Opening

Portal Gauge - VAS5007/25- assembly, front door opening

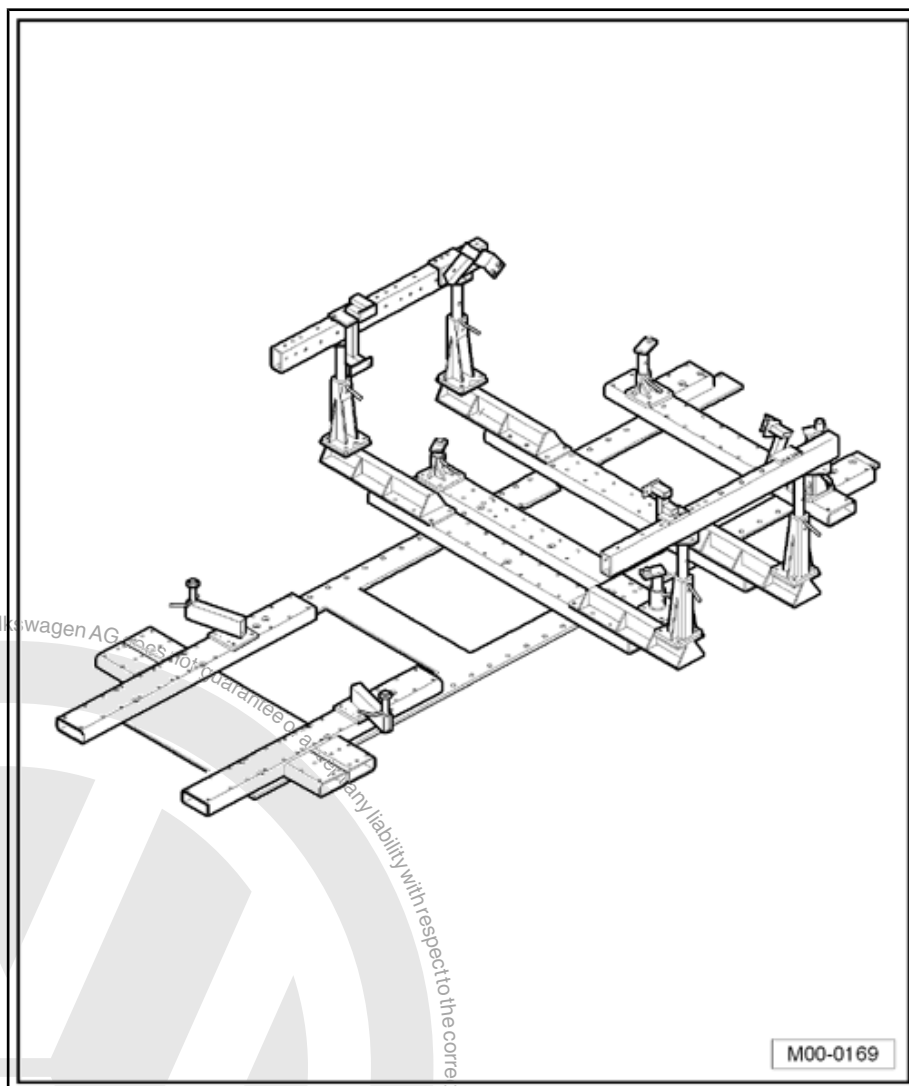


Refer to assembly plan supplied with alignment bracket set for detailed information on the assembly.



## 10.2 Rear Door Opening

### Portal Gauge - VAS5007/25- Assembly, Front Door Opening



Refer to assembly plan supplied with alignment bracket set for detailed information on the assembly.



## 50 – Body Front

RO: 50 40 55 50

### 1 Right Bracket, Replacing

⇒ ["1.1 Tools", page 36](#)

⇒ ["1.2 Removing", page 36](#)

⇒ ["1.3 Installing", page 38](#)



#### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs; Body Collision Repair

### 1.1 Tools

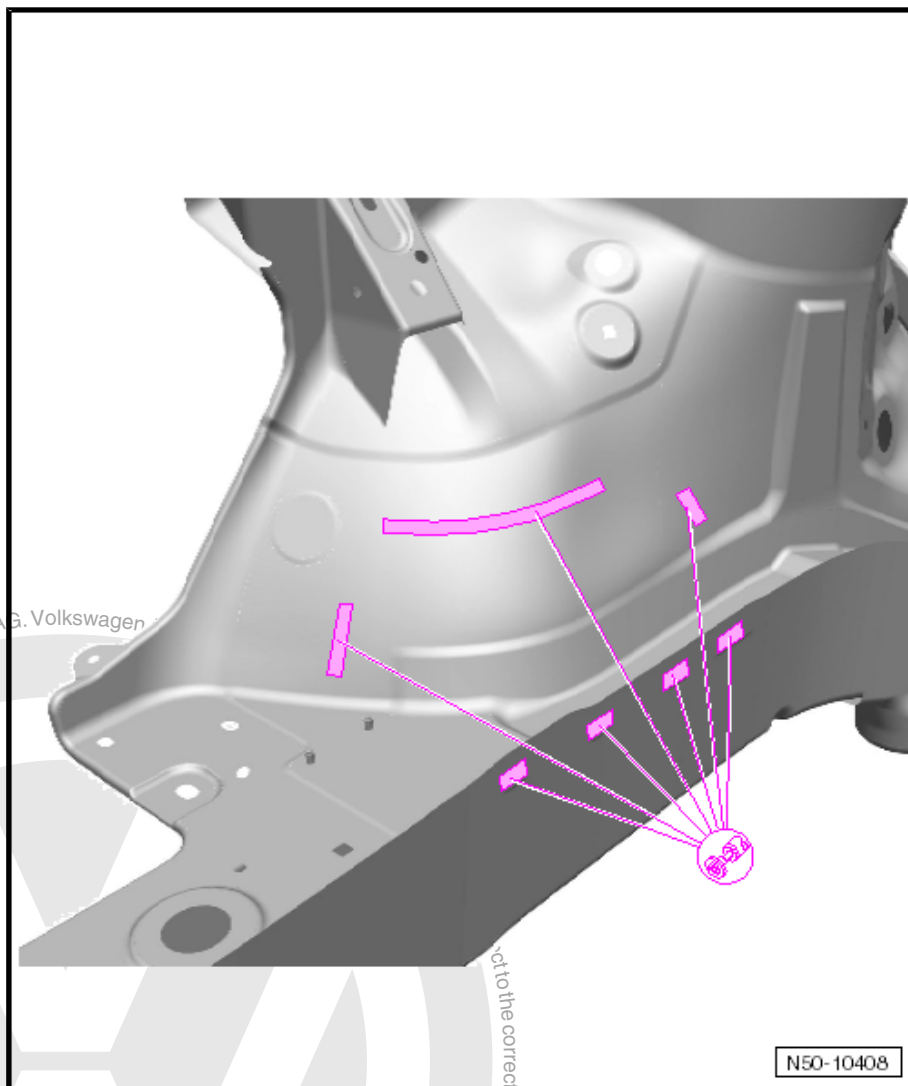


#### Note

- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*

### 1.2 Removing





Remove residual material.

### 1.3 Installing

⇒ ["1.3.1 Welding", page 38](#)



#### Note

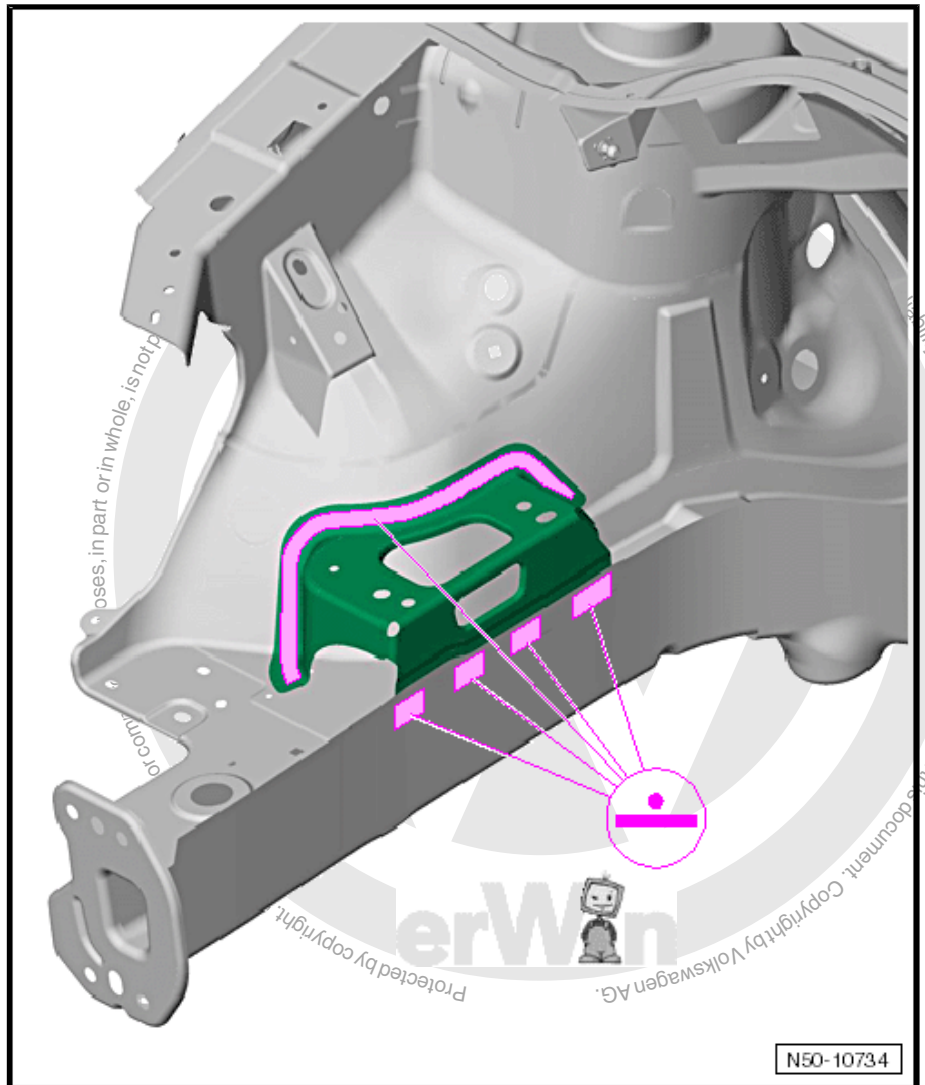
Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["1.1 Tools", page 36](#).

### 1.3.1 Welding

#### Replacement Part

- ◆ Right Console
- Fit new part to vehicle standing on Straightening Bracket Set and secure.





- Weld in console, Straight-line spot weld seam.



RO: 50 40 55 56

## 2 Left Bracket, Replacing

⇒ ["2.1 Tools", page 41](#)

⇒ ["2.2 Removing", page 41](#)

⇒ ["2.3 Installing", page 43](#)



### WARNING

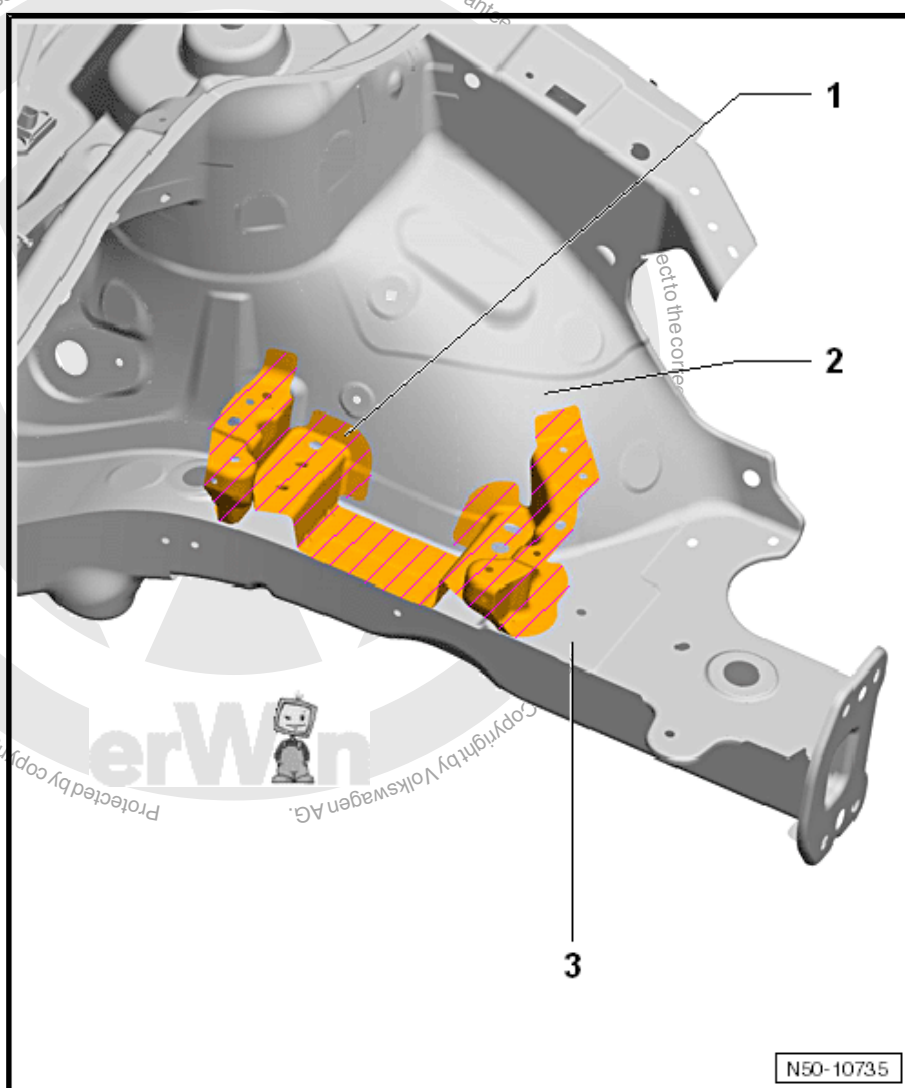
*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

1 - Bracket

2 - Wheel Housing

3 - Longitudinal Member





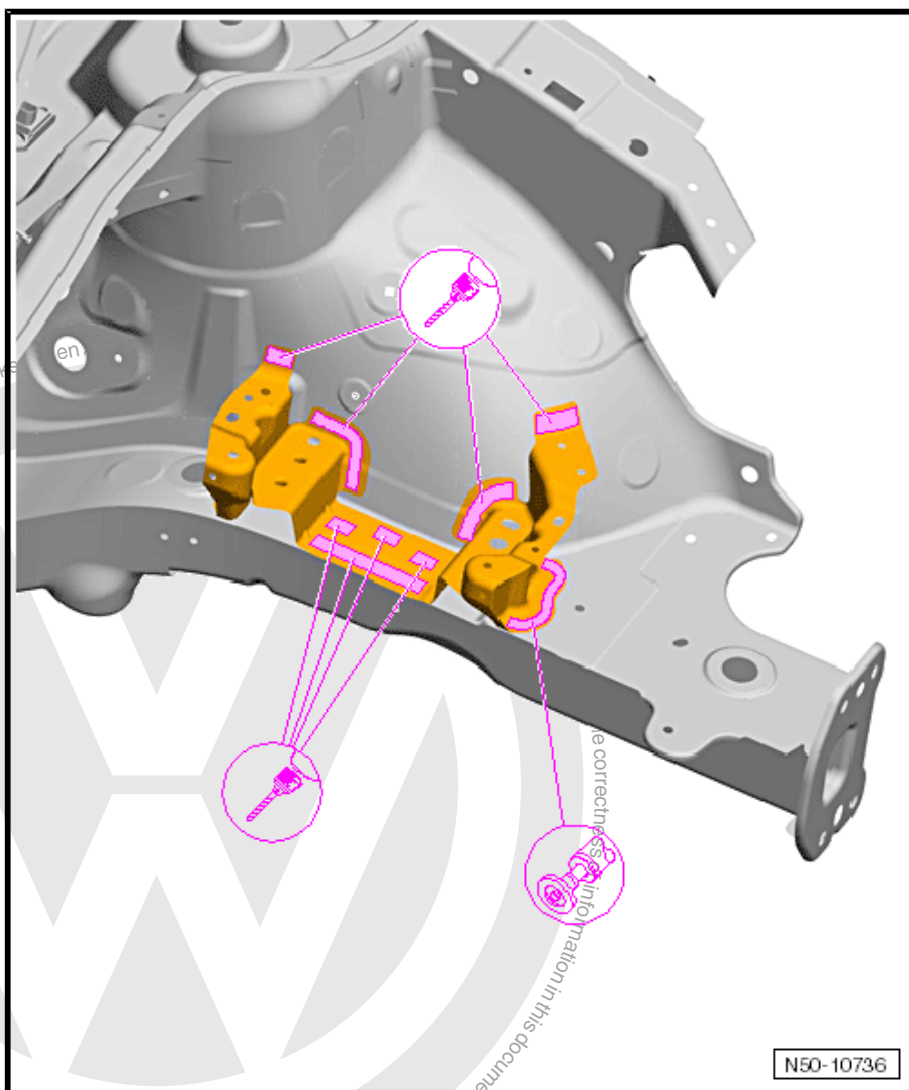
## 2.1 Tools



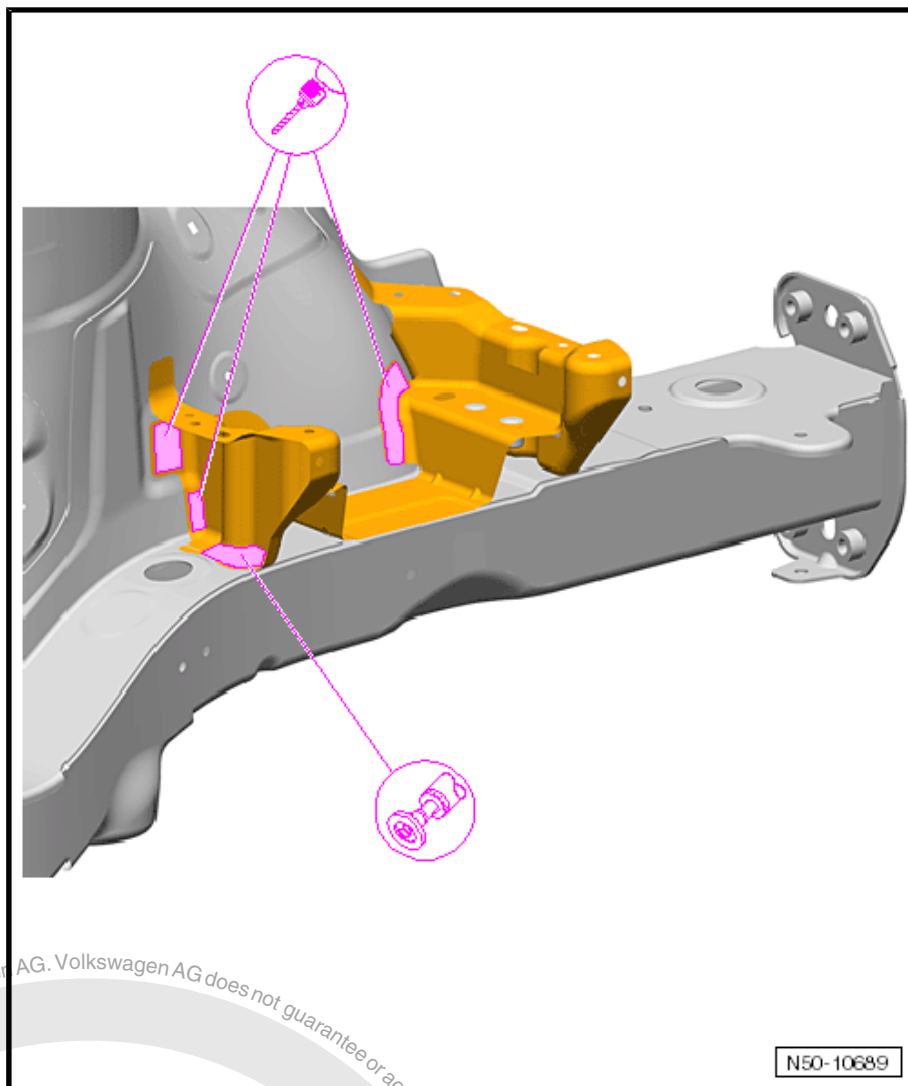
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to ServiceNet, Workshop Equipment, V.A.G Workshop Equipment Catalog, Body/Paint.

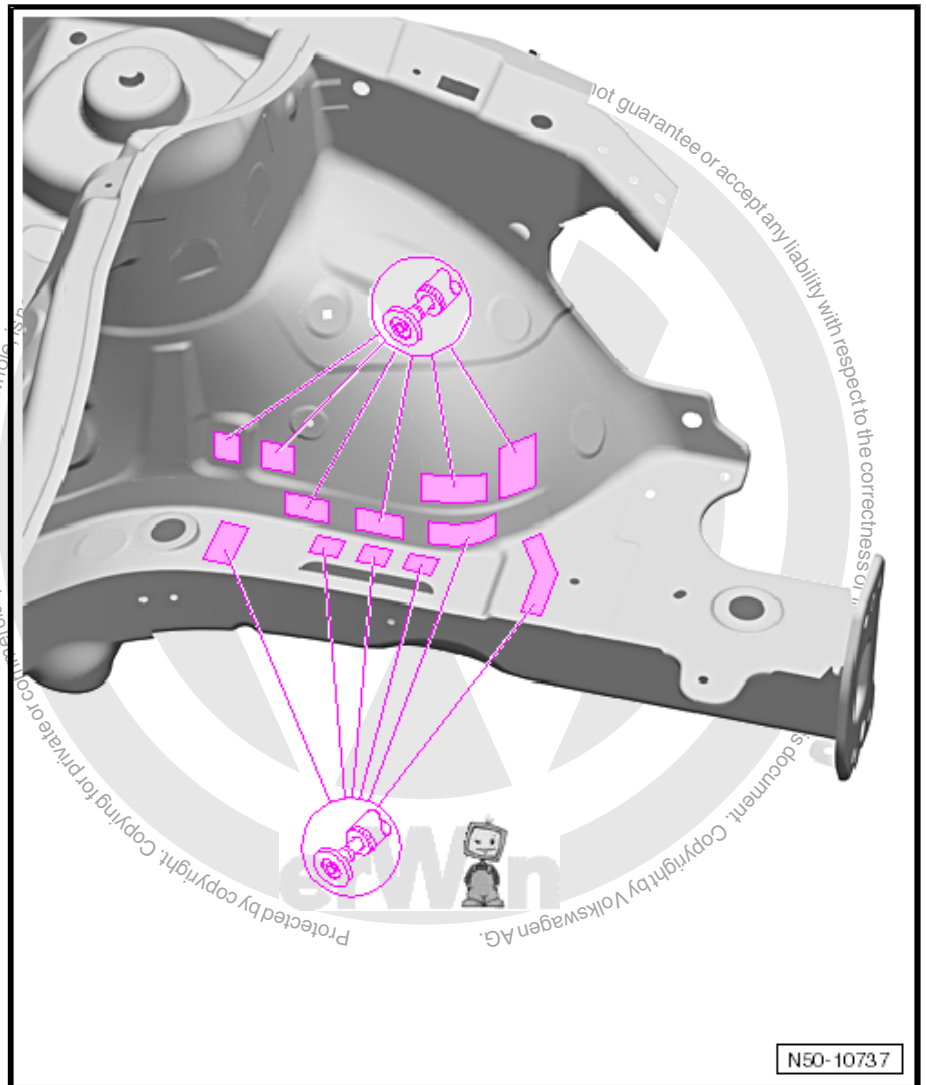
## 2.2 Removing



- Separate the original joint.



- Separate the original joint.



- Remove residual material.

## 2.3 Installing

⇒ ["2.3.1 Preparing New Parts", page 43](#)

⇒ ["2.3.2 Welding", page 43](#)



### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["2.1 Tools", page 41](#).*

### 2.3.1 Preparing New Parts

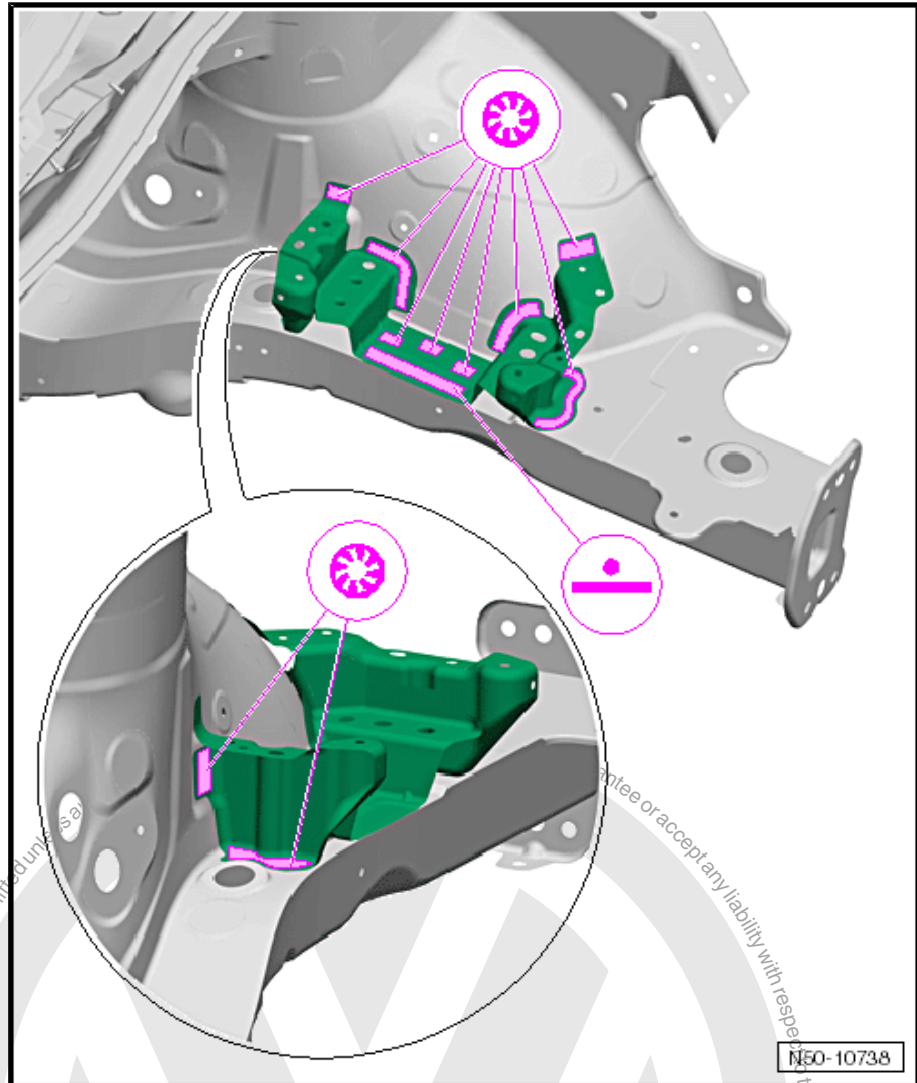
#### Replacement Part

##### ◆ Left Console

- Drill holes for gas-shielded arc plug weld seam.

### 2.3.2 Welding

- Fit new part to vehicle standing on Straightening Bracket Set and secure.



- Weld in console, Gas-shielded arc plug weld seam and straight-line spot weld seam.



RO: 50 43 55 00

### 3 Subframe Bracket, Replacing

⇒ ["3.1 Tools", page 45](#)

⇒ ["3.2 Removing", page 45](#)

⇒ ["3.3 Installing", page 47](#)



#### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair ; Safety Precautions



#### Note

*In the example, replacement of retaining bracket for subframe is described for left front retaining bracket on this vehicle. The work procedure is performed in a similar manner for the other 3 retaining brackets.*

### 3.1 Tools

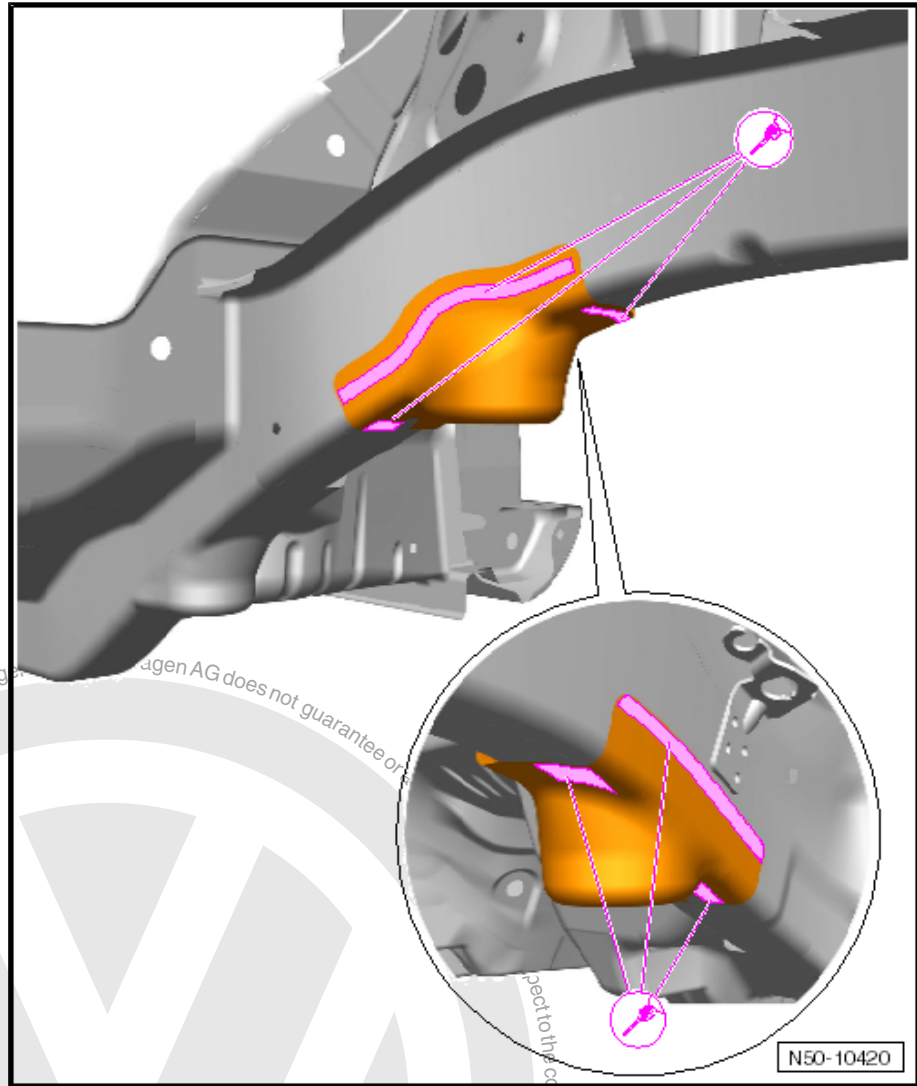


#### Note

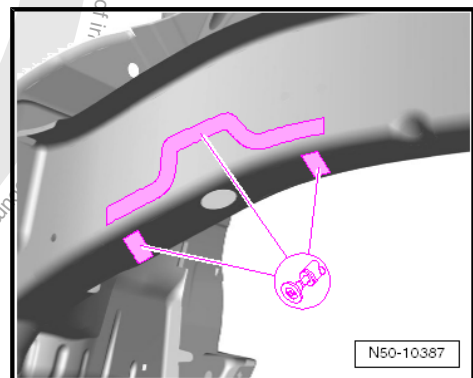
- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*

### 3.2 Removing





- Separate the original joint.
- Remove residual material.







### 3.3 Installing

⇒ ["3.3.1 Preparing New Parts", page 47](#)

⇒ ["3.3.2 Welding", page 47](#)



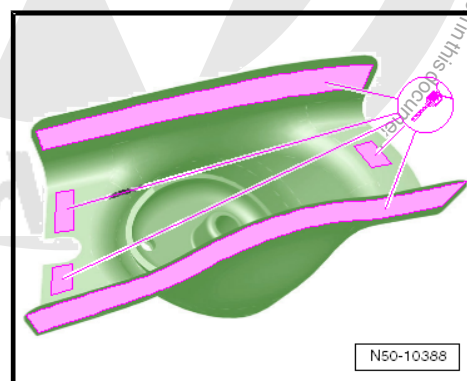
#### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["3.1 Tools", page 45](#).*

#### 3.3.1 Preparing New Parts

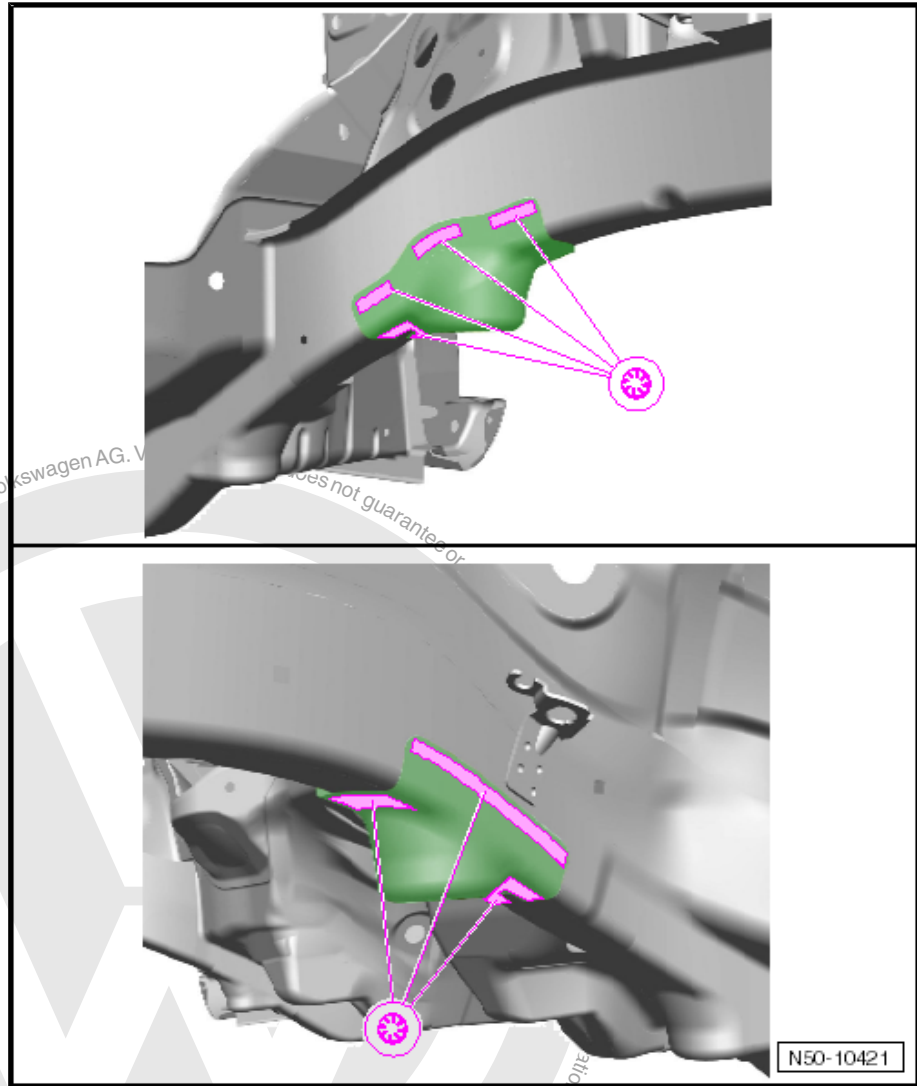
##### Replacement Part

- ◆ Front retaining bracket for subframe (Replacement Part identification: retaining bracket mounting frame)
- Drill 8 mm holes for a gas shielded arc plug weld seam.



#### 3.3.2 Welding

- Fit new part to vehicle standing on Straightening Bracket Set and secure.



- Weld in new part; Gas-shielded arc plug weld seam.



RO: 50 65 55 00

## 4 Front Bumper Bracket, Replacing

⇒ ["4.1 Tools", page 49](#)

⇒ ["4.2 Removing", page 49](#)

⇒ ["4.3 Installing", page 50](#)



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision  
Repair ; Safety Precautions

### 4.1 Tools



#### Note

- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*



### 4.2 Removing

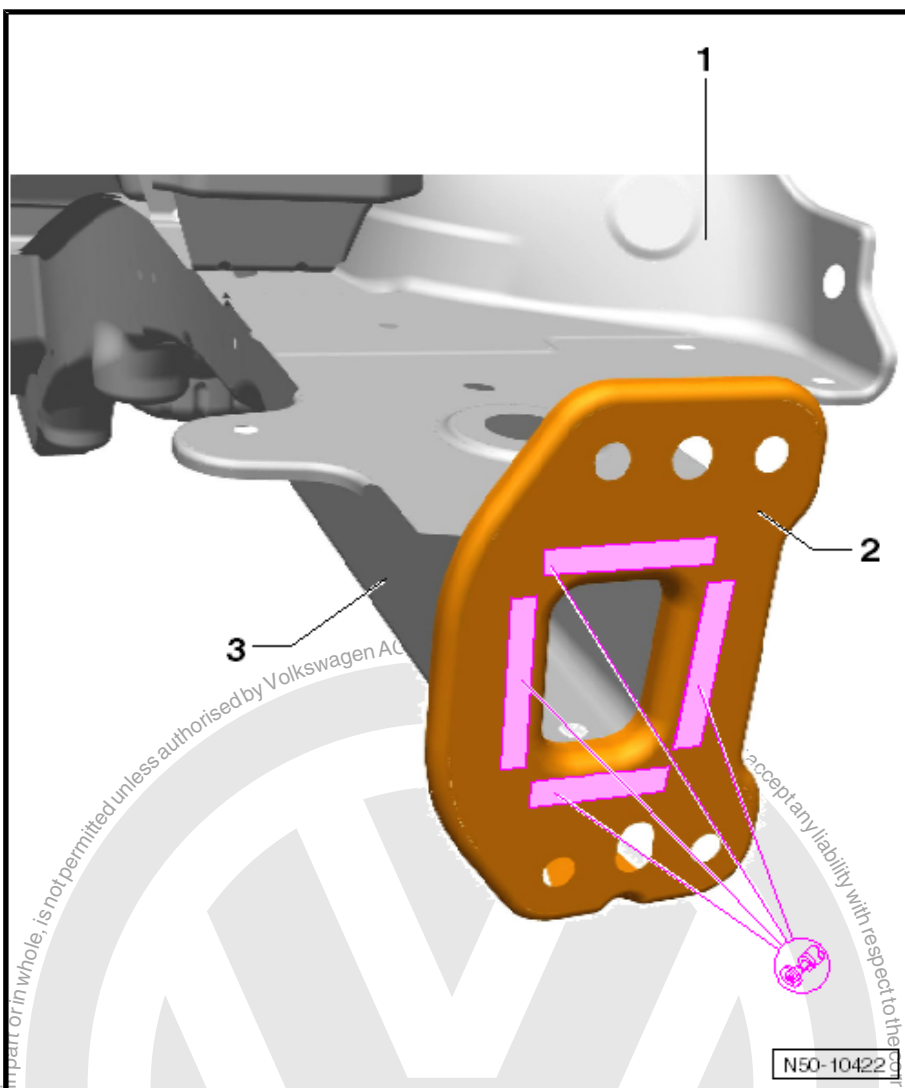


**1 - Longitudinal Member Cover Plate**

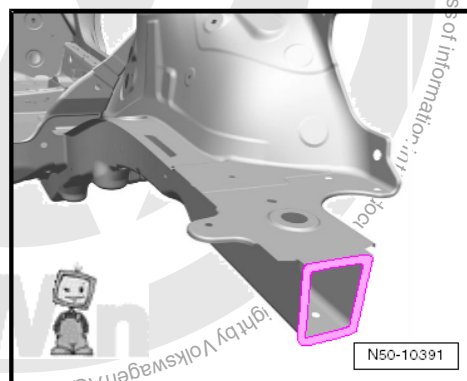
**2 - Bumper Bracket**

**3 - Longitudinal Member**

- Separate the original joint.



- Remove residual material.



## 4.3 Installing

⇒ [“4.3.1 Welding”, page 51](#)



**Note**

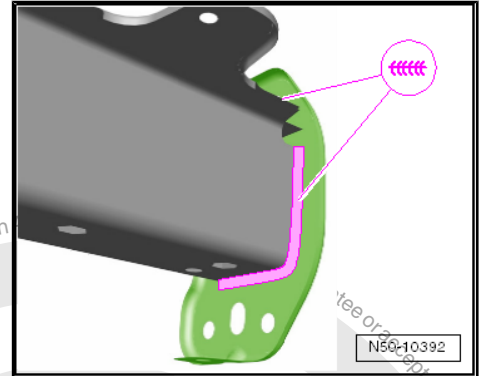
Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“4.1 Tools”, page 49](#).



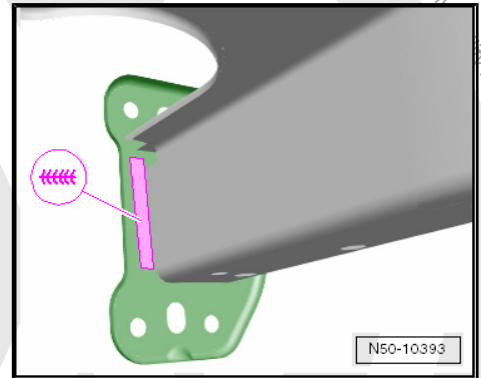
### 4.3.1 Welding

#### Replacement Part

- ◆ Front bumper bracket
- Fit new part to vehicle standing on Straightening Bracket Set and secure.
- Weld in bumper bracket, gas-shielded arc continuous weld seam.



- Weld in bumper bracket, gas-shielded arc continuous weld seam.





RO: 50 72 55 00

## 5 Upper Wheel Housing Longitudinal Member, Replacing

⇒ "5.1 Tools", page 53

⇒ "5.2 Removing", page 53

⇒ "5.3 Installing", page 55



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

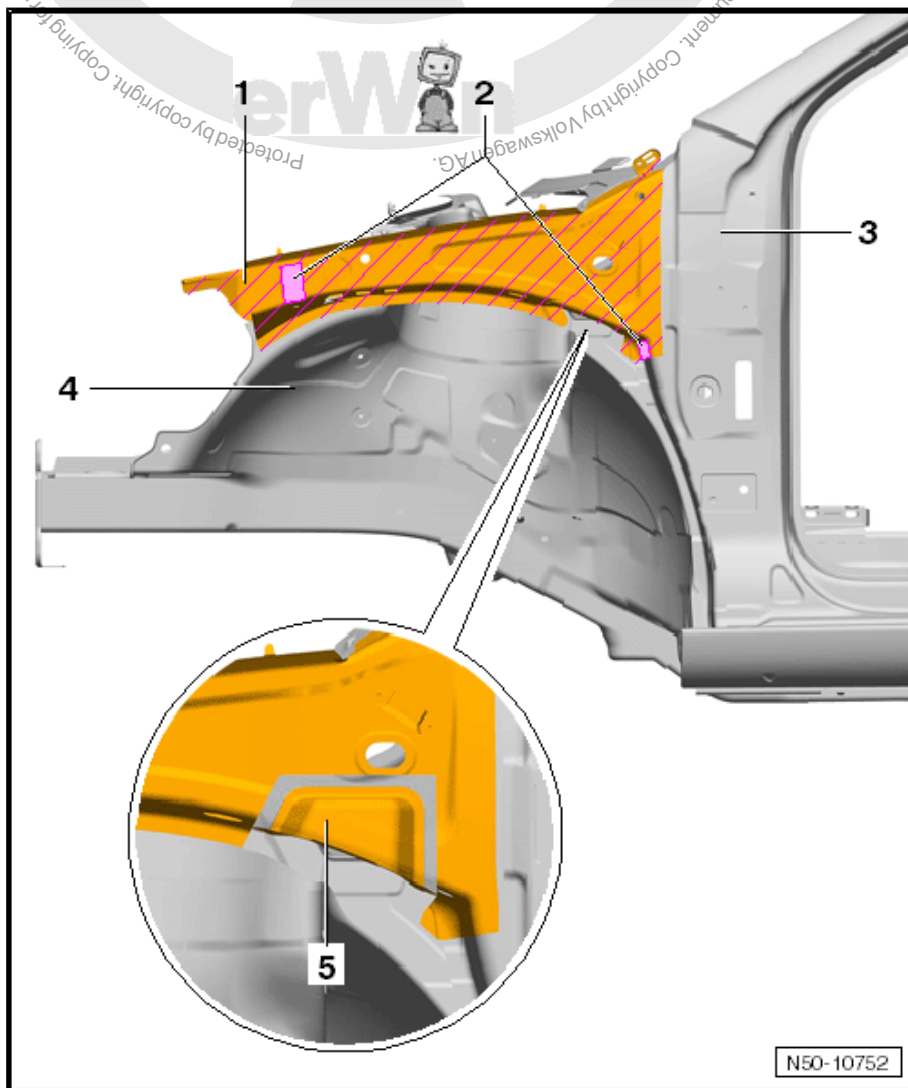
1 - Upper Wheel Housing Longitudinal Member

2 - Bonded Area

3 - A-Pillar

4 - Wheel Housing

5 - Water Deflector (installed in the outer wheel housing longitudinal member)



N50-10752



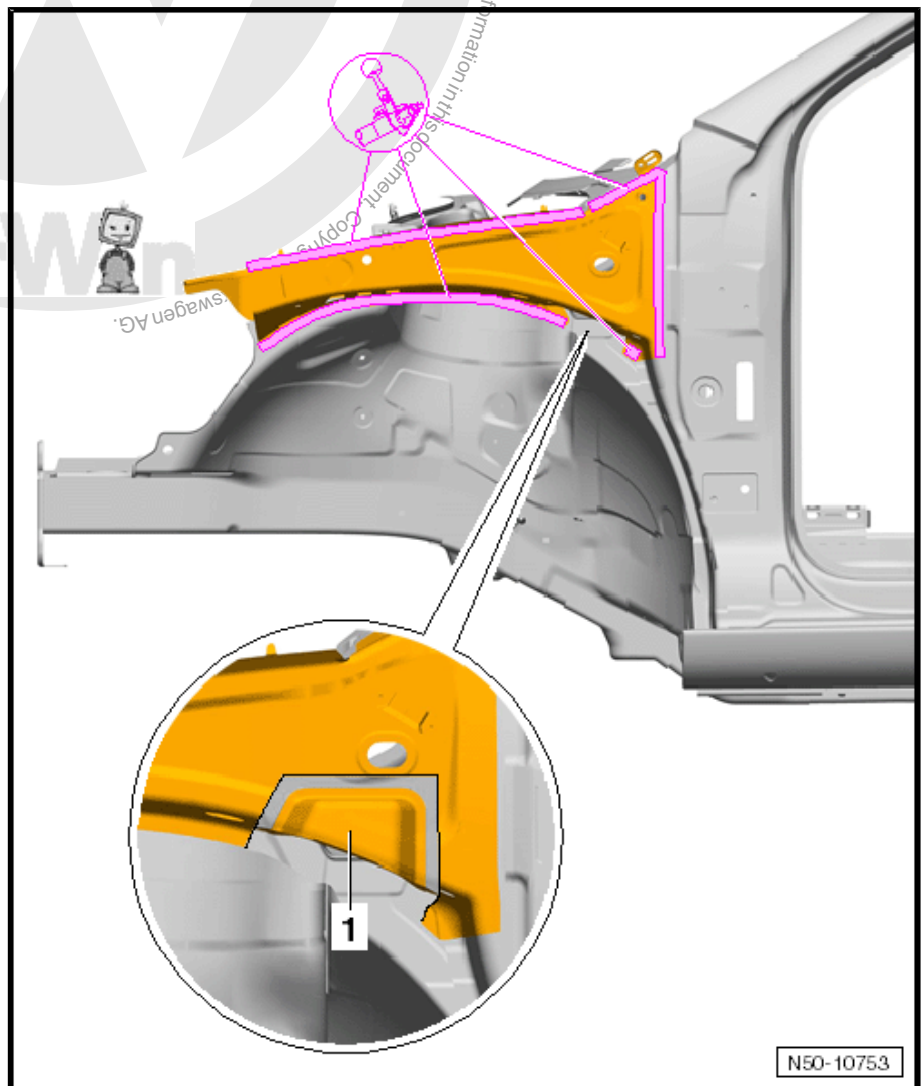
## 5.1 Tools



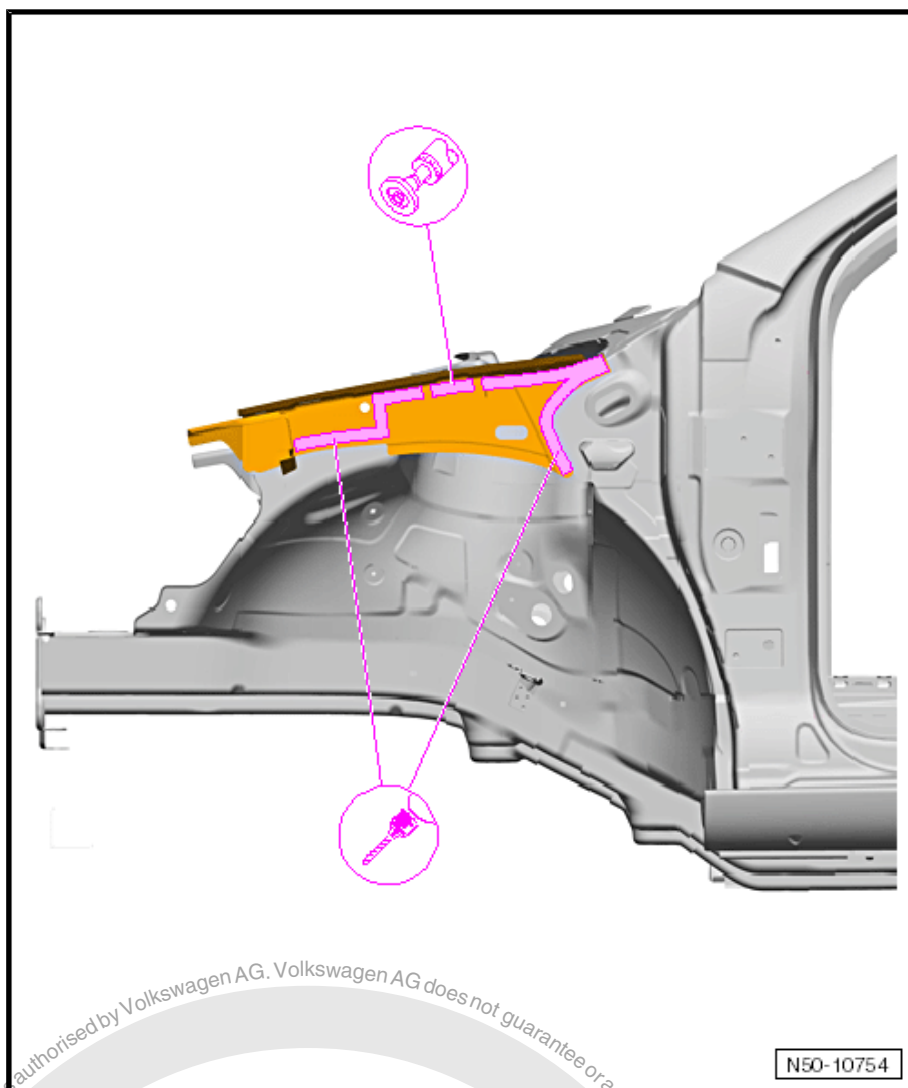
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 5.2 Removing

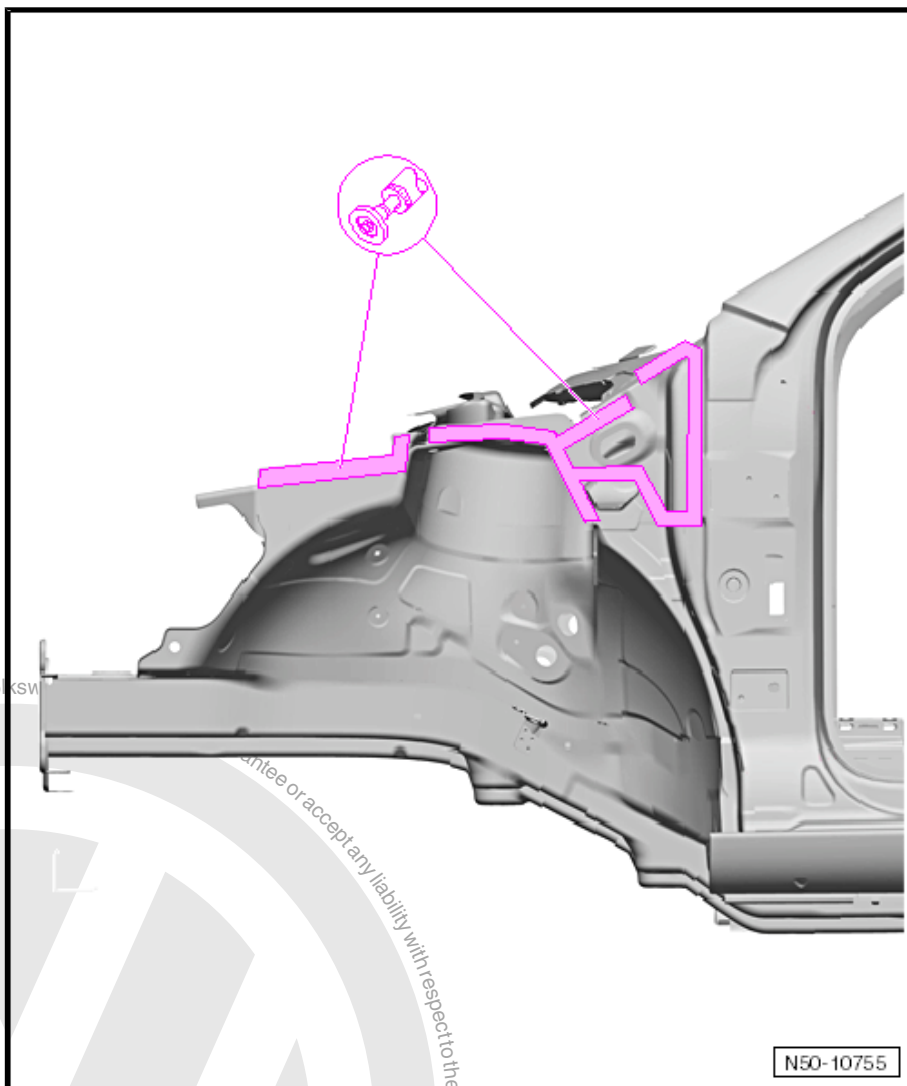


- Disconnect the original joint between outer upper longitudinal member and inner upper longitudinal member, as well as to the A-pillar.
- Disconnect the original joint on the water deflector -1- leading to the inner upper longitudinal member.



- Disconnect original joint between inner upper longitudinal member, wheel housing and plenum chamber.





- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 5.3 Installing

⇒ ["5.3.1 Preparing New Parts", page 56](#)

⇒ ["5.3.2 Welding", page 56](#)



#### Note

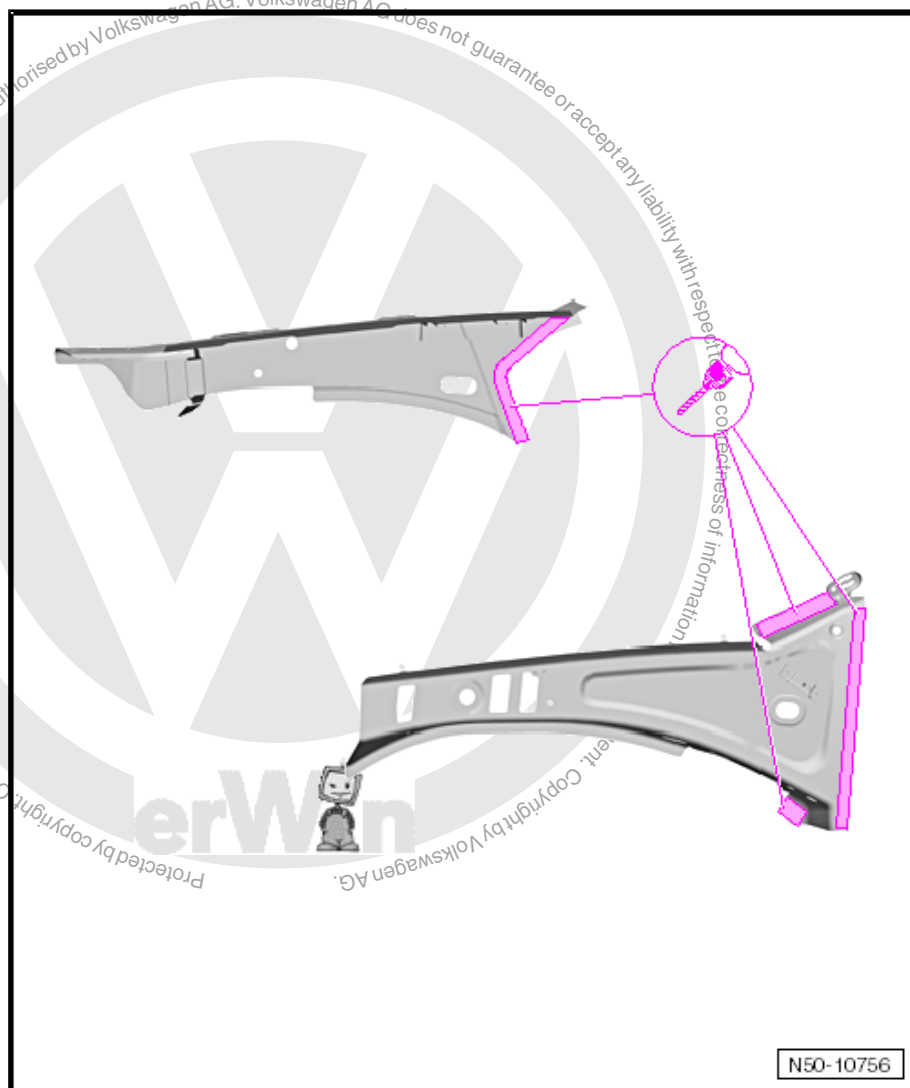
*Use only welding equipment approved by Volkswagen AG, refer to ["5.1 Tools", page 53](#).*



### 5.3.1 Preparing New Parts

#### Replacement Part

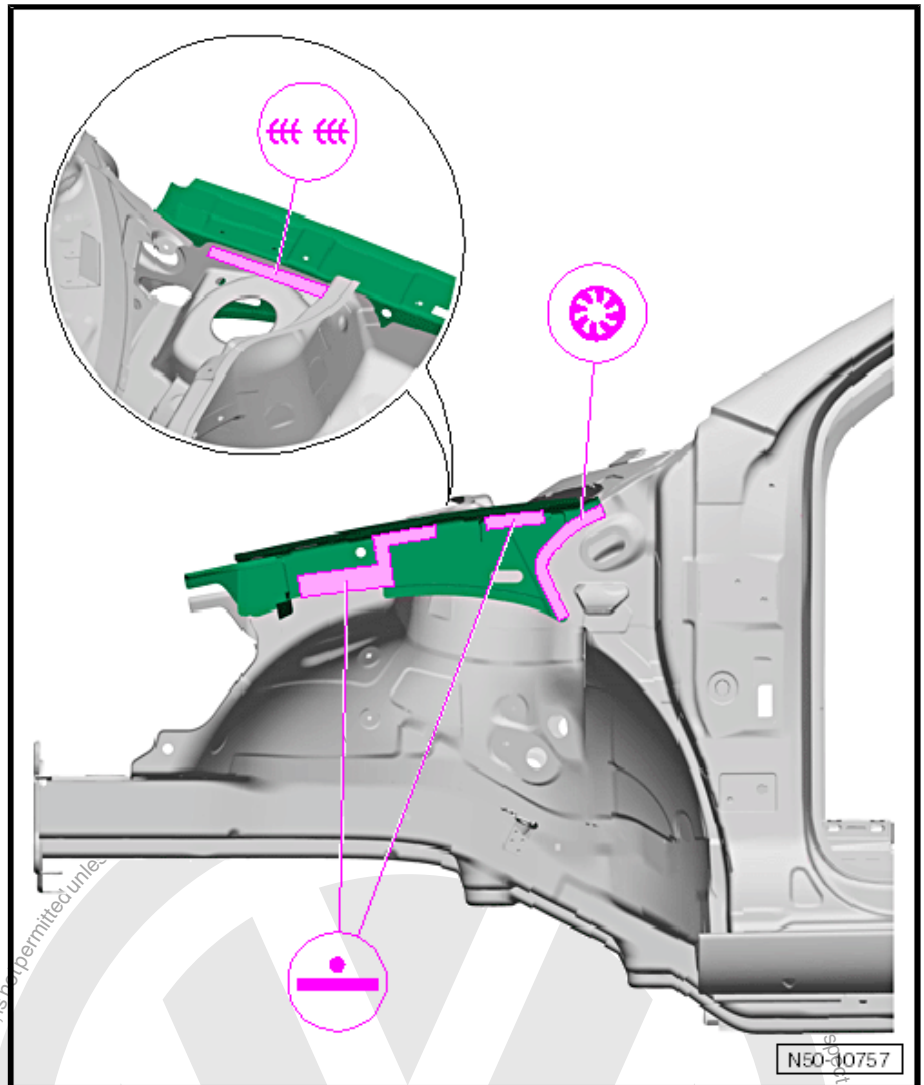
- ◆ Upper inner wheel housing longitudinal member
- ◆ Outer upper wheel housing longitudinal member
- ◆ 2K Body Adhesive - D 180 003 M2-



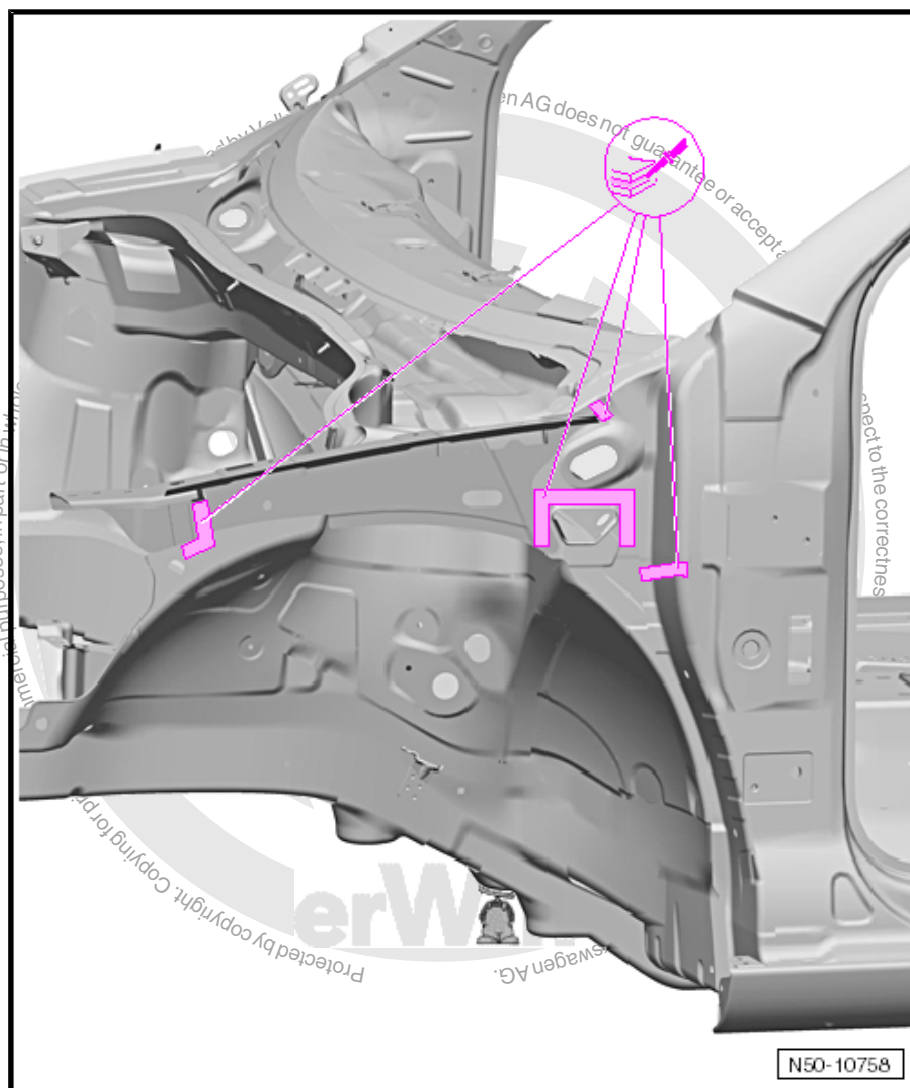
- Drill a 7 mm hole in the inner upper wheel housing longitudinal member and the outer upper wheel housing longitudinal member.

### 5.3.2 Welding

- Fit new part to vehicle standing on Straightening Bracket Set and secure.
- Check fit with attachments.



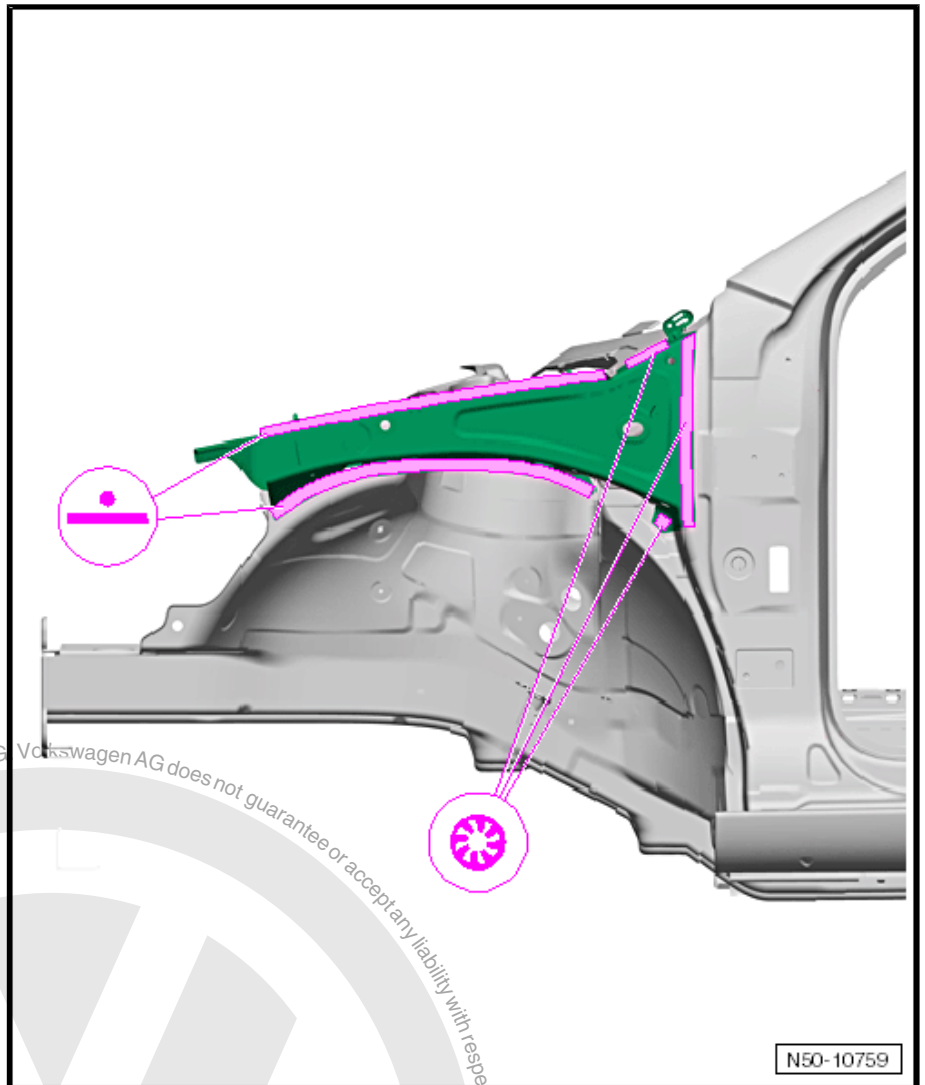
- Weld the inner upper wheel housing longitudinal member to the wheel housing with a straight-line spot weld seam and gas-shielded arc plug weld seam.
- Weld the inner upper wheel housing longitudinal member to the suspension strut tower mount with a gas-shielded arc continuous weld seam (staggered).



#### Note

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*

- Apply 2K Body Adhesive - D 180 003 M2- in the area where adhesive was applied during production.



- Weld in longitudinal member for upper outside wheel housing, Gas-shielded arc plug weld seam and straight-line spot weld seam.



RO: 50 74 55 50

## 6 Front Wheel Housing, Removing and Installing



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair ; Safety Precautions

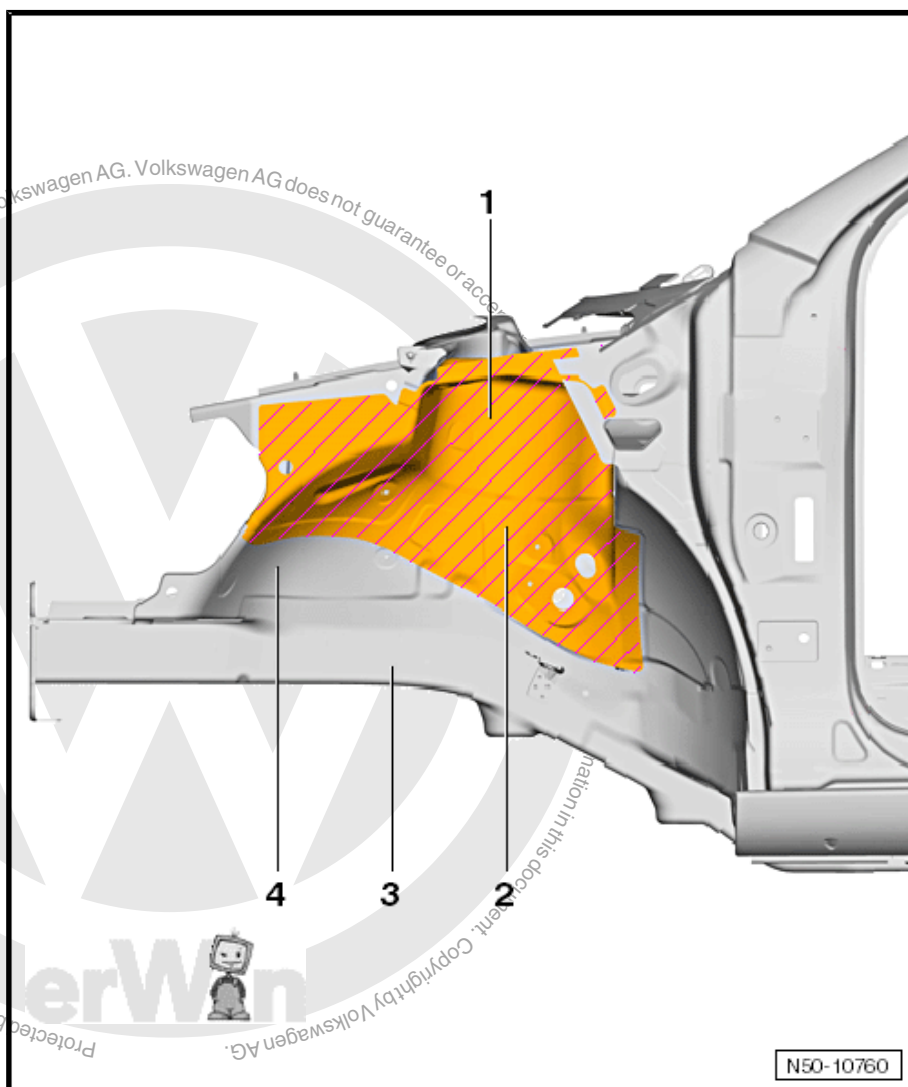
- The wheel housing upper longitudinal member is already removed, refer to [⇒ "5 Upper Wheel Housing Longitudinal Member, Replacing", page 52](#).

1 - Suspension strut tower mount

2 - Wheel housing

3 - Front longitudinal member

4 - Longitudinal member cover plate





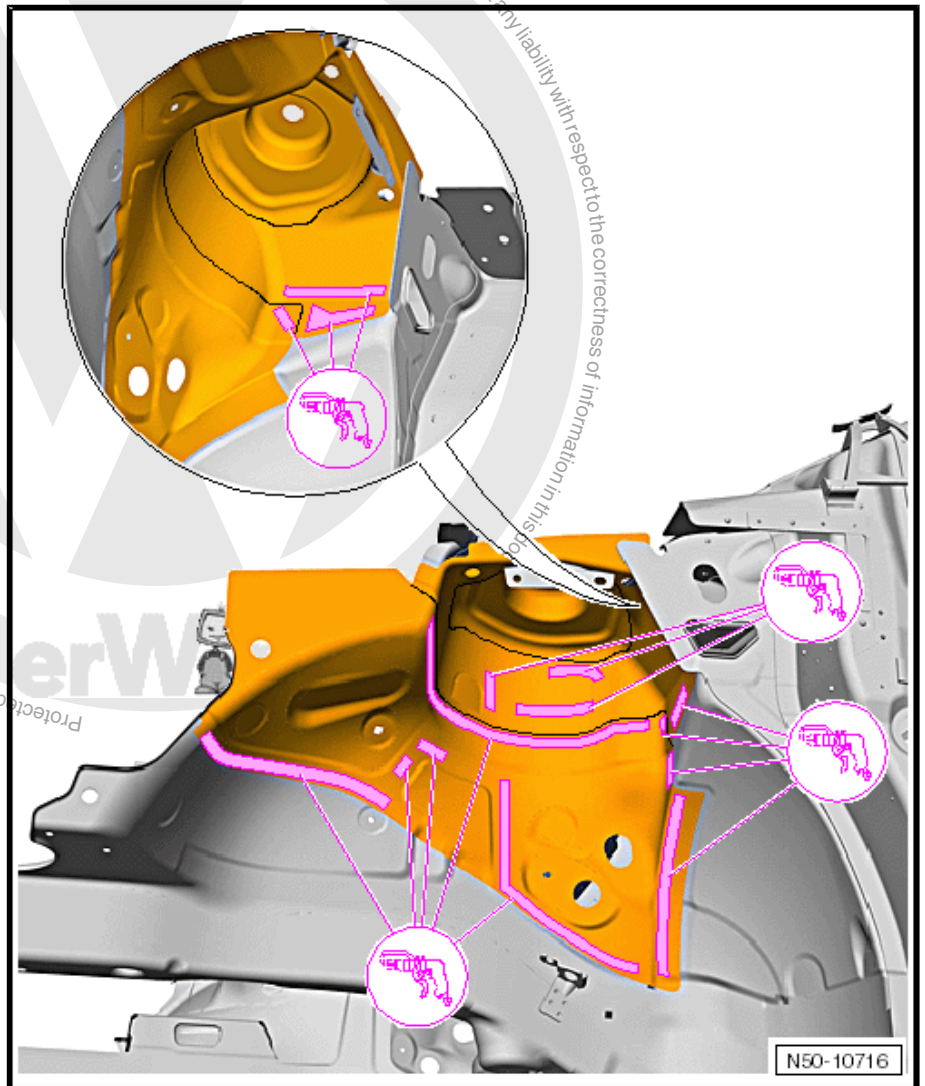
## 6.1 Tools



### Note

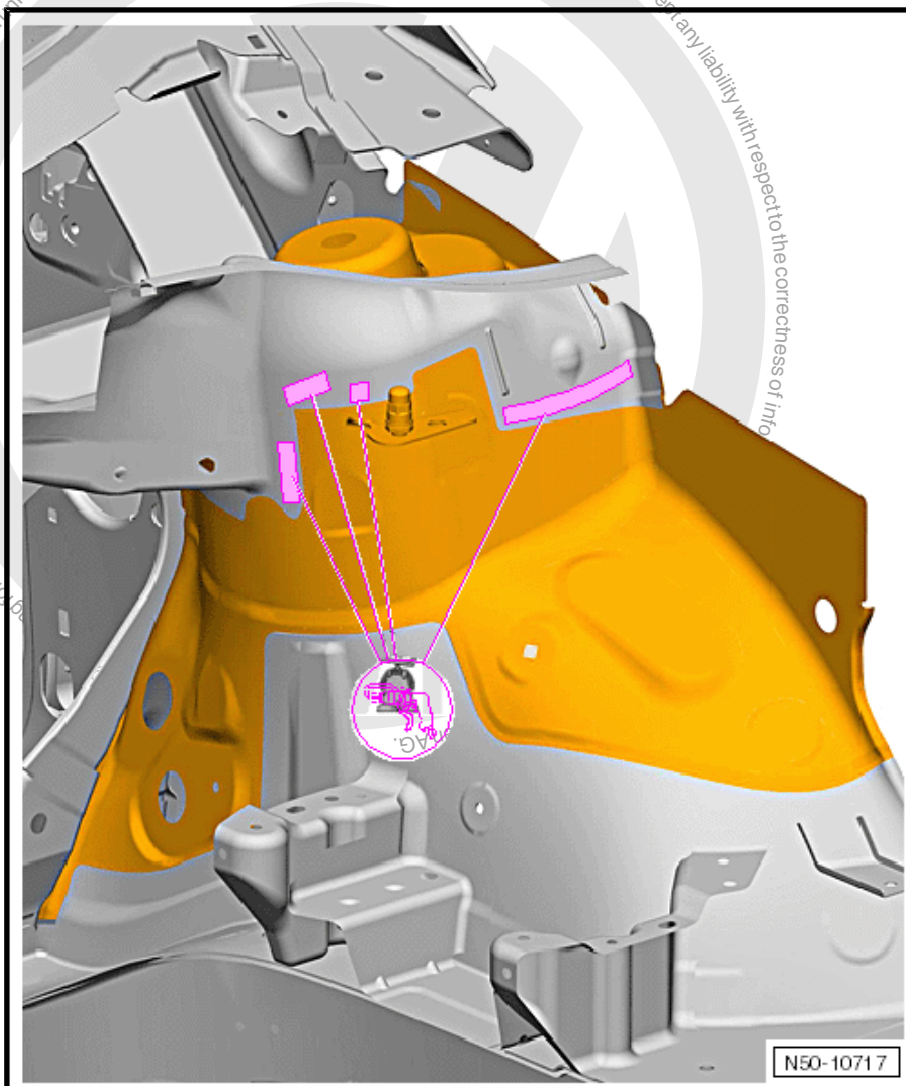
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to ⇒ ServiceNet, Workshop Equipment, V.A.G Workshop Equipment Catalog, Body/Paint.

## 6.2 Removing



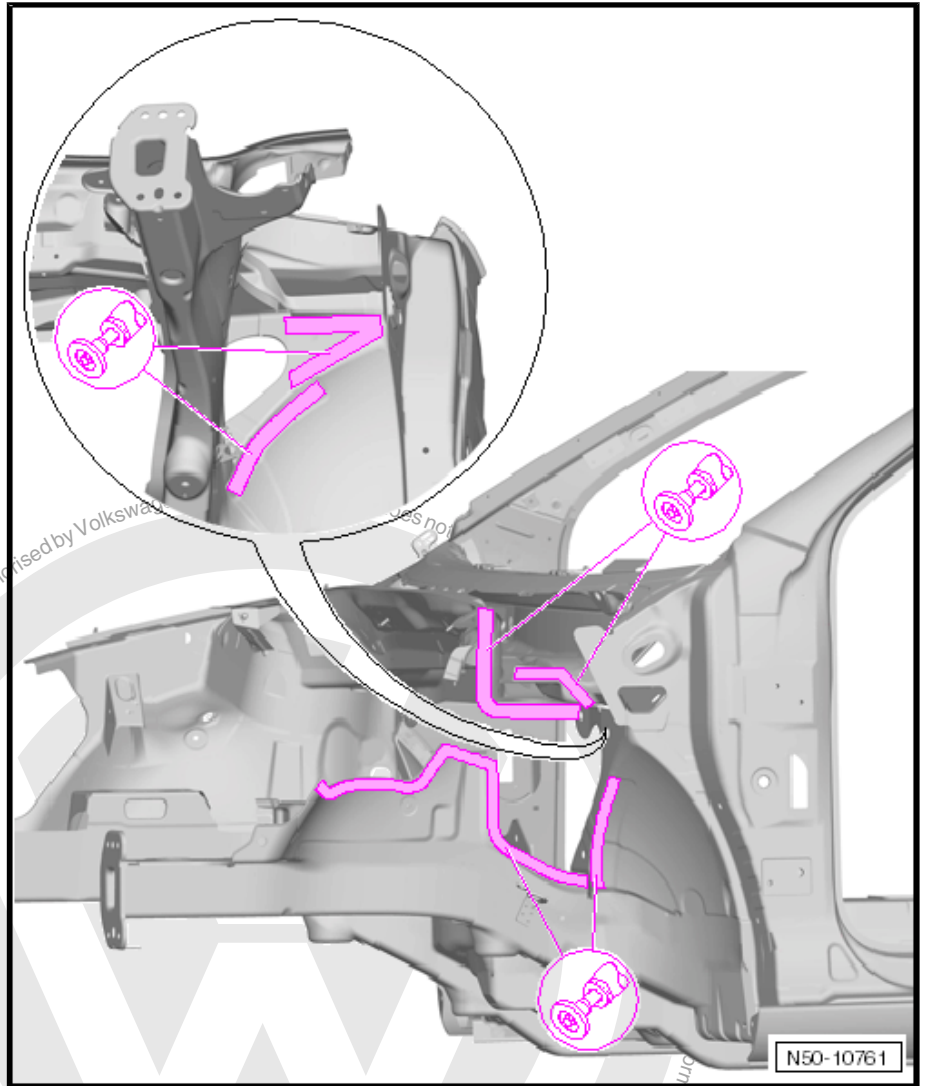
- Original joint to front longitudinal member cover plate, loosen from wheel housing side to inside and to plenum chamber.





- Loosen remaining joint to plenum chamber.





- Remove residual material.

## 6.3 Installing



### Note

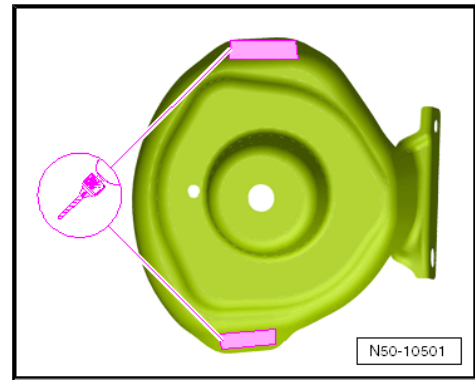
Use only welding equipment approved by Volkswagen AG, refer to ["6.1 Tools", page 61](#).

### 6.3.1 Preparing New Parts

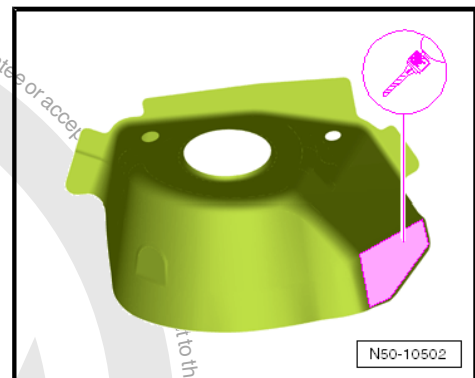
- ◆ Wheel housing
- ◆ Suspension strut tower mount
- ◆ Suspension strut mounting reinforcement

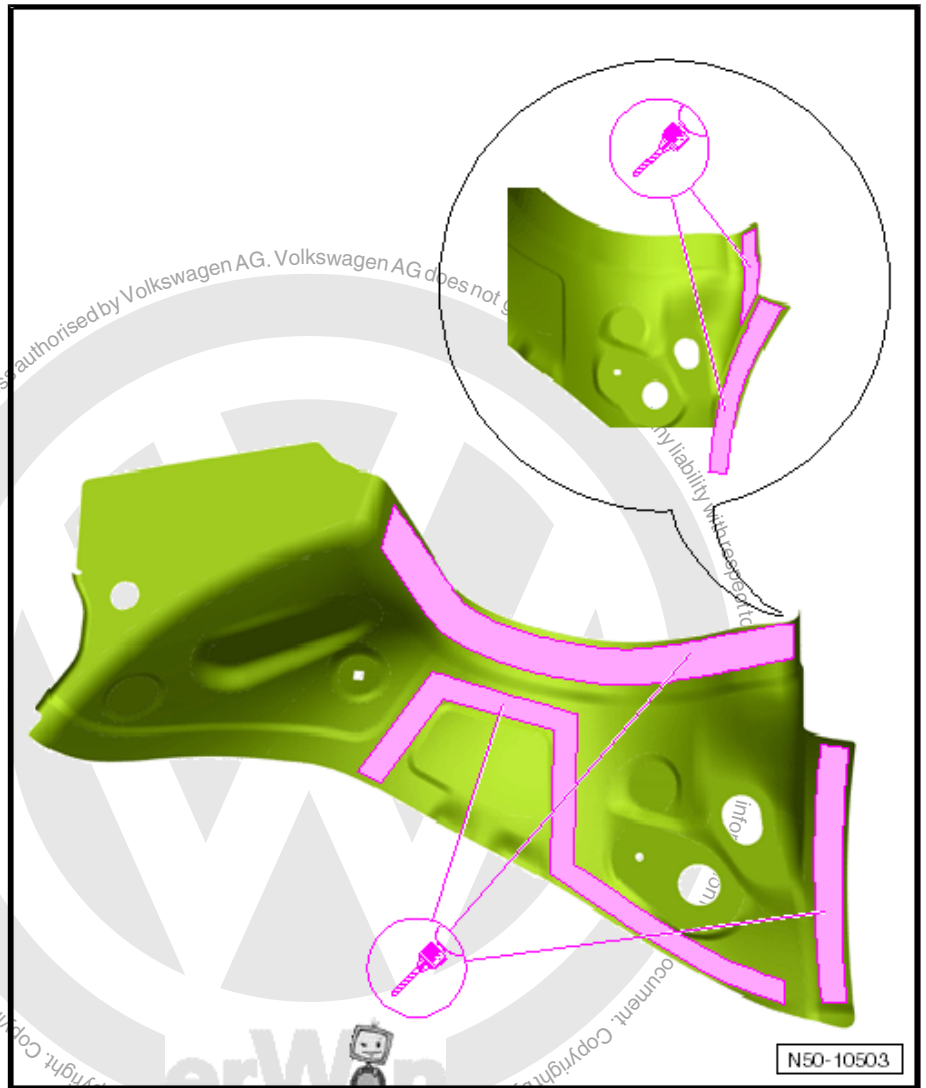


- Drill 8 mm diameter holes into suspension strut mounting reinforcement for the for gas-shielded arc plug weld seam.



- Drill diameter 8 mm holes into the suspension strut mount for the gas-shielded arc plug weld seam.

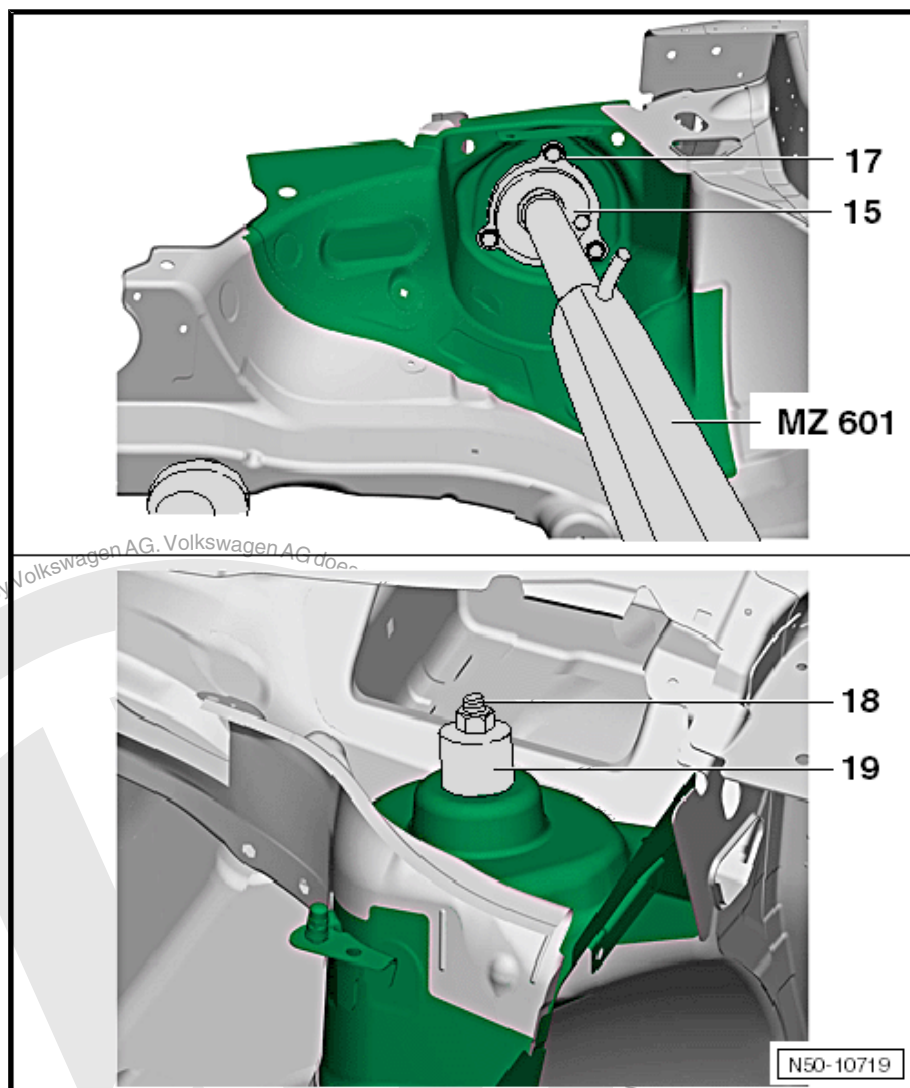




**Note**

*Distance between the holes: approximately 25 - 30 mm.*

- Drill , diameter 8 mm.holes into the wheel housing for the gas-shielded arc plug weld seam.

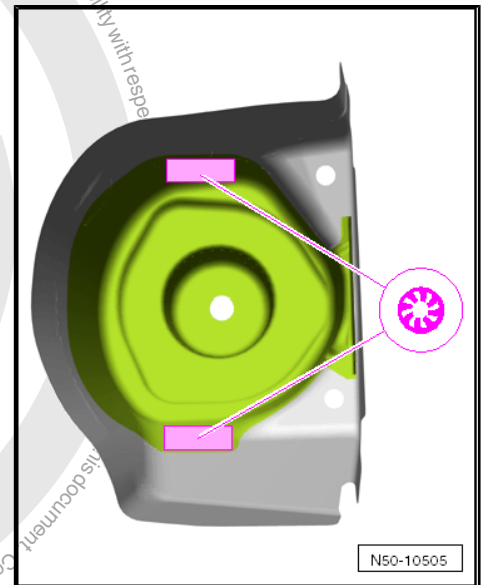


- Fit and secure the new parts using the alignment bracket mountings -15-, -17-, -18- and -19-.
- Check fit with neighboring components.

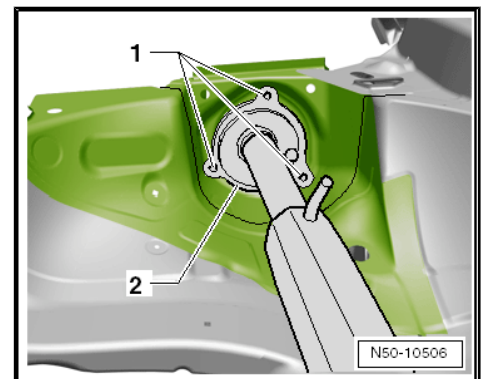


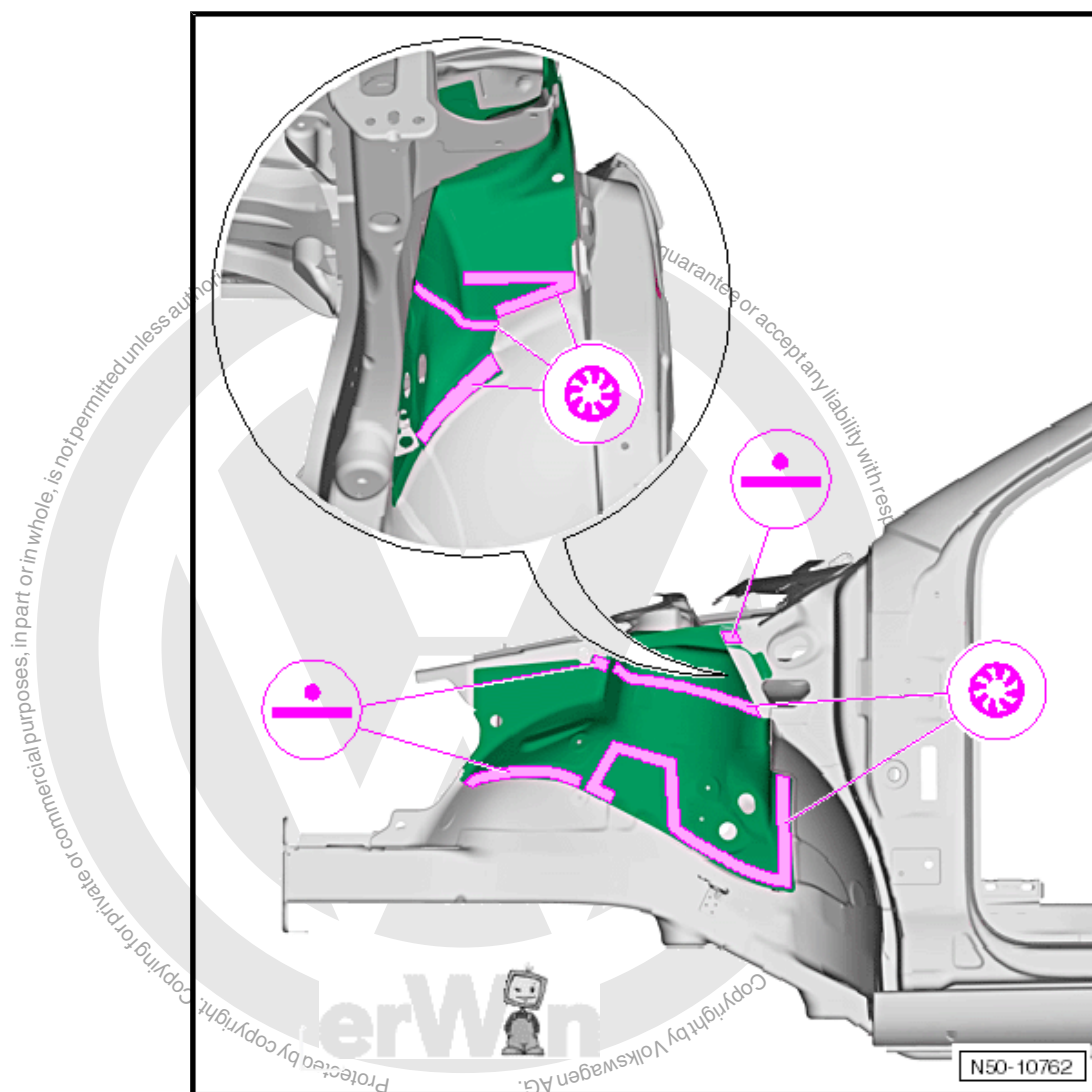
### 6.3.2 Welding

- Weld suspension strut mounting -green- with reinforcement -gray- gas-shielded arc plug weld.

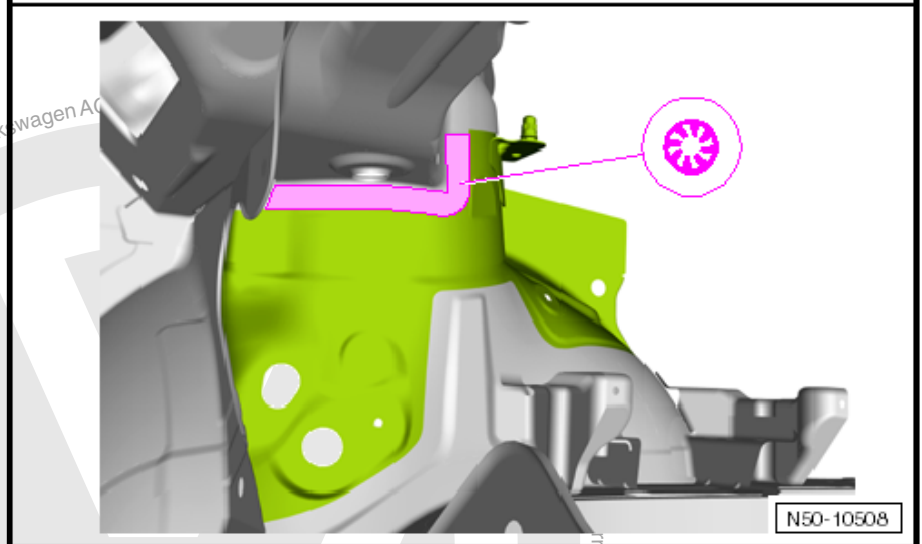
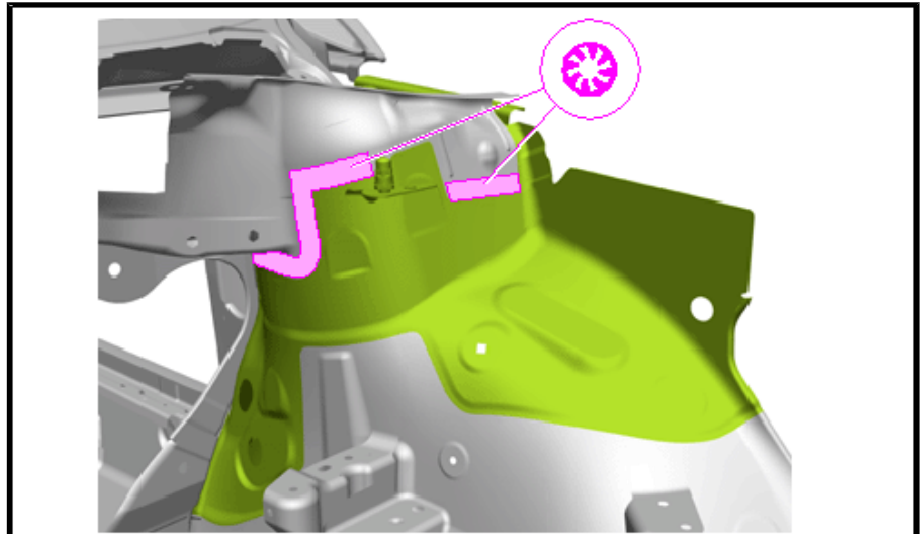


- Drill holes -1- (diameter 10 mm) for bolting the suspension strut and also secure the suspension strut tower mount with reinforcement to alignment bracket mounting -2- with screws.

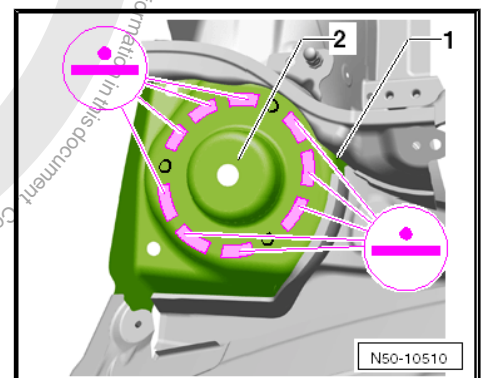




- Weld in wheel housing with suspension strut mounting, gas-shielded arc plug weld seam and straight-line spot weld seam.



- Restore joint between wheel housing and plenum chamber, gas shielded arc plug weld seam.
- Restore original joint between suspension strut mounting -1- and suspension strut mounting reinforcement -2-, straight line spot weld seam.







- Enlarge holes for suspension strut mounting cover cap.

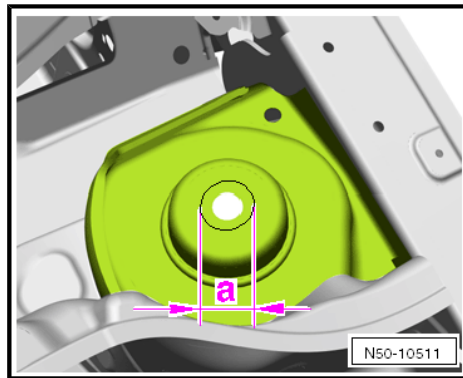
Dimension -a- = 34 mm



**Note**

*Use item 19 from the Straightening Bracket Set - VAS6240/2- to check dimension -a-.*

- Install the wheel housing upper longitudinal member, refer to [⇒ "5.3 Installing", page 55](#).







RO: 50 79 49 50

## 7 Thread on Subframe Mounting, Servicing

⇒ [“7.1 Contents of Thread Repair Set”, page 73](#)

⇒ [“7.2 Thread, Servicing”, page 73](#)



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Subframe is already removed, refer to ⇒ Suspension, Wheels and Steering; Rep. Gr. 40 ; Removal and Installation



### Note

*In the example, thread repair on this vehicle is described for left front retaining bracket for subframe and is to be employed at the other 3 retaining brackets accordingly as necessary.*

### Special tools and workshop equipment required

- ◆ Thread Repair Kit M12x1.5 - VAS6058-
- ◆ Drill - VAS6267-



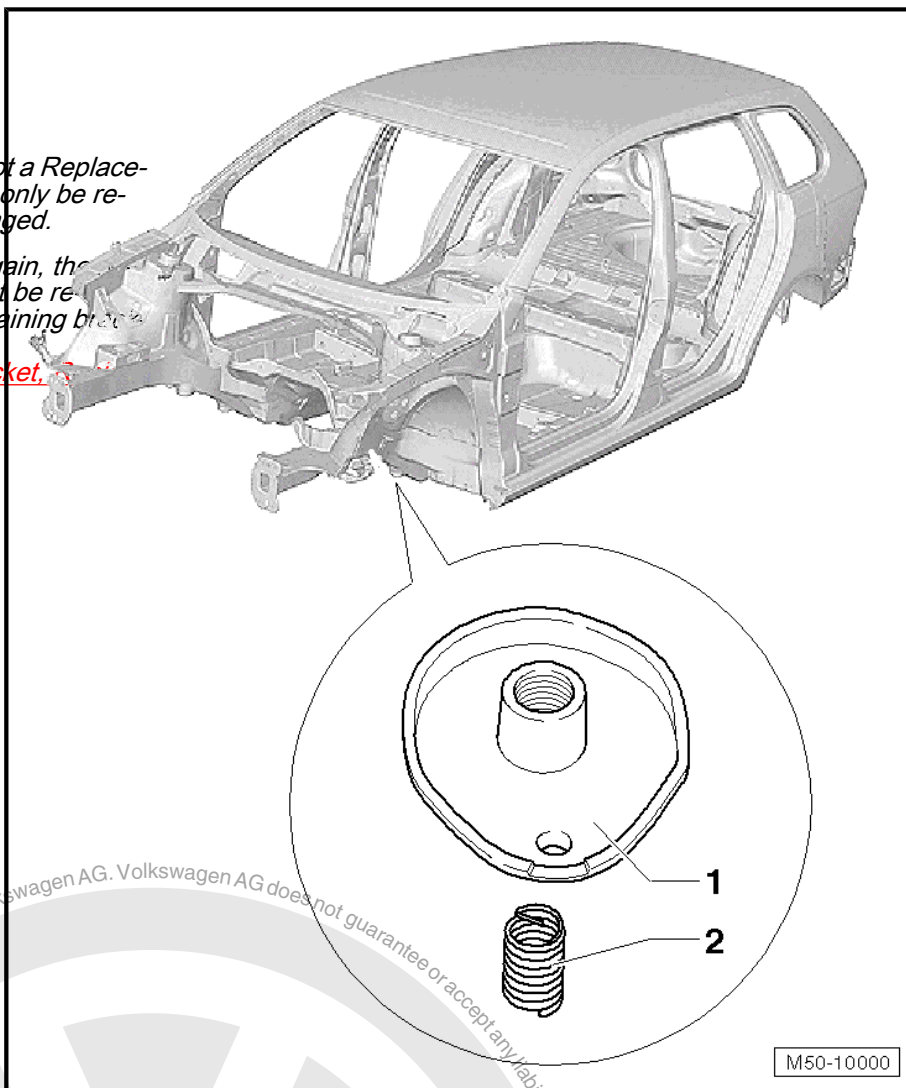
## 1 - Threaded Plate (in retaining bracket for subframe)



### Note

- ◆ Threaded plate is not a Replacement Part and may only be repaired once if damaged.
- ◆ If damaged once again, the retaining bracket must be replaced. Replace retaining bracket, refer to ["3 Subframe Bracket, Replacing", page 45](#).

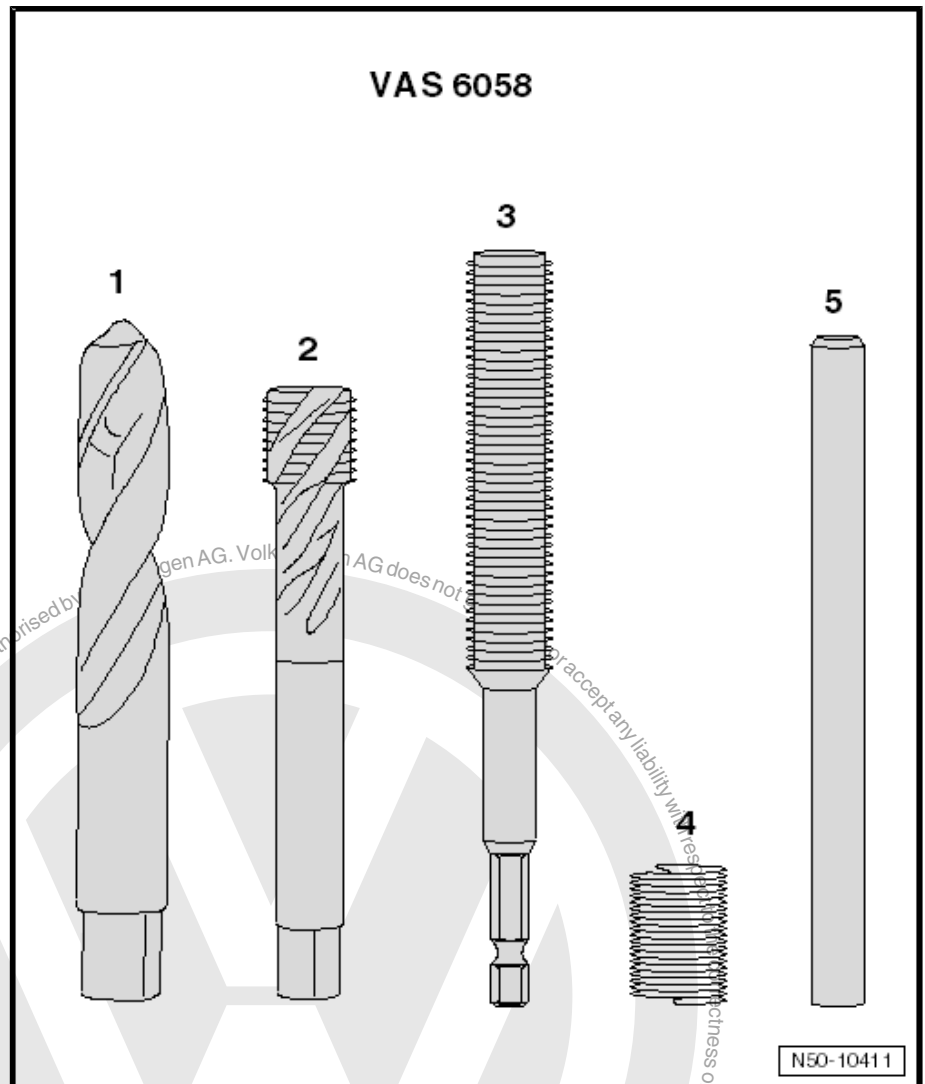
## 2 - Heli-Coil Insert





## 7.1 Contents of Thread Repair Set

- 1 - Spiral Drill Diameter  
12.5 mm
- 2 - Tap M 12 x 1.5
- 3 - Installing spindle
- 4 - Threaded Insert M 12 x 1.5  
x 24 ( -VAS6058/1- )
- 5 - Peg Breaker with Magnetic  
Tips



## 7.2 Thread, Servicing

- ⇒ ["7.2.1 Threads, Drilling", page 73](#)
- ⇒ ["7.2.2 Threads, Cutting", page 74](#)
- ⇒ ["7.2.3 Thread Inserts, Inserting", page 75](#)

### 7.2.1 Threads, Drilling

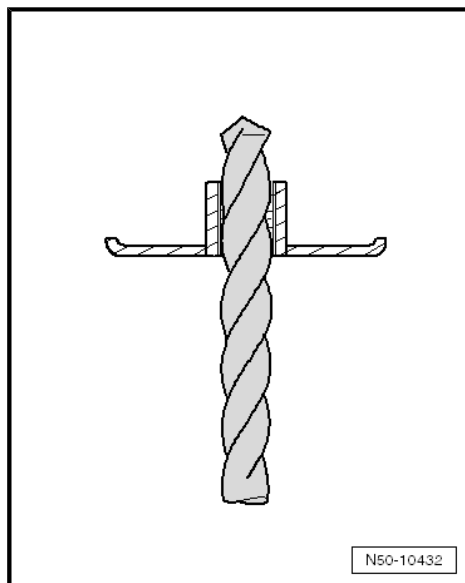


Caution

*Wear protective eyewear when drilling out the threads.*

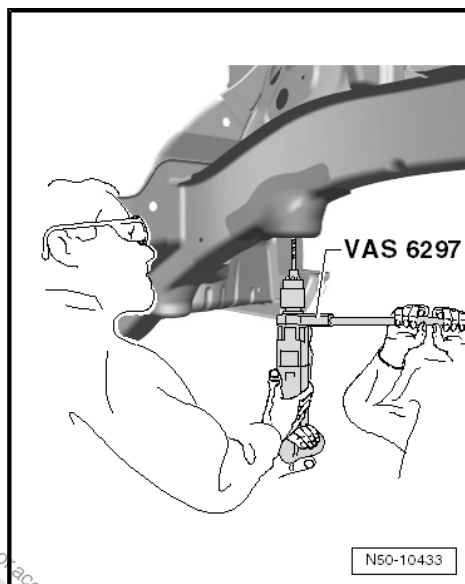


- Drill out the threads with the spiral drill.



#### Note

- ◆ Use the Drill - VAS6267- for drilling and grinding.
- ◆ While drilling, drill must be held by a second person using an additional handle.
- ◆ Do not angle the drill.



### 7.2.2 Threads, Cutting

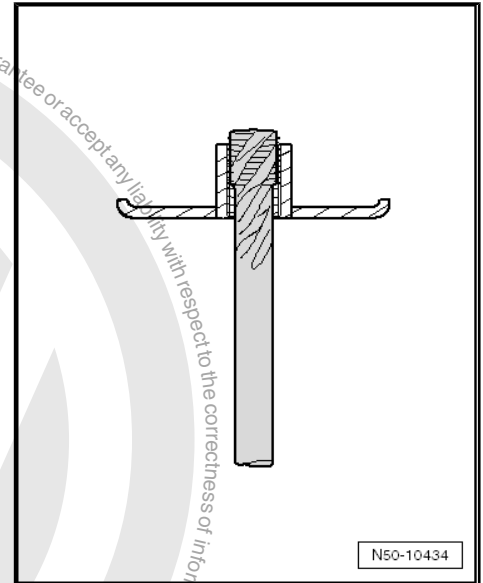


#### Caution

***Wear protective eyewear when cutting the thread and when cleaning the threaded bushing with compressed air.***



- Cut the threads with the thread tap.
- Clean threaded bushing (blow with pressurized air).



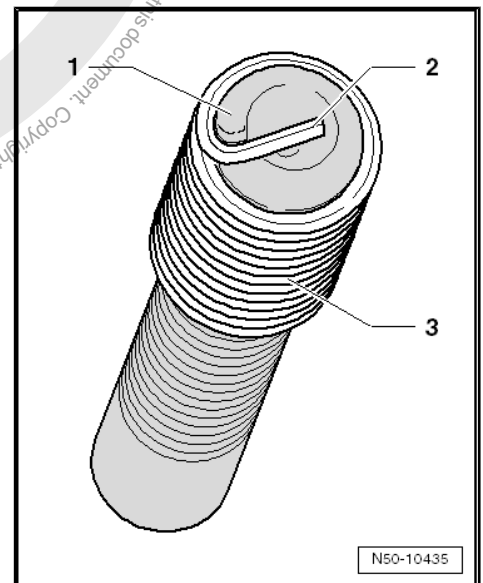
### 7.2.3 Thread Inserts, Inserting

- Turn the threaded insert -3- onto the installation spindle until the drive peg -2- makes contact on drive tab -1- of installing spindle.

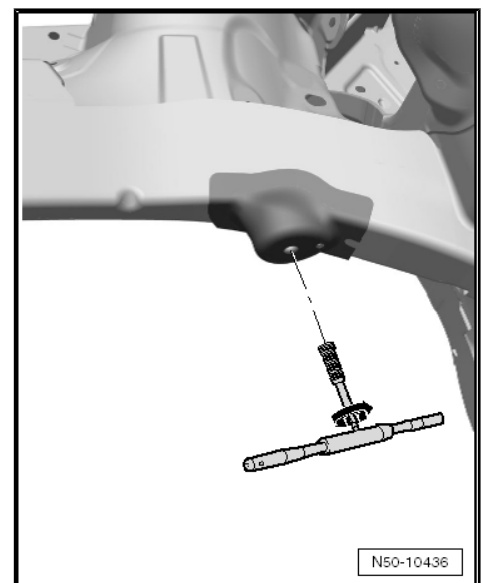


#### Note

*Thread insert must be able to be turned easily.*

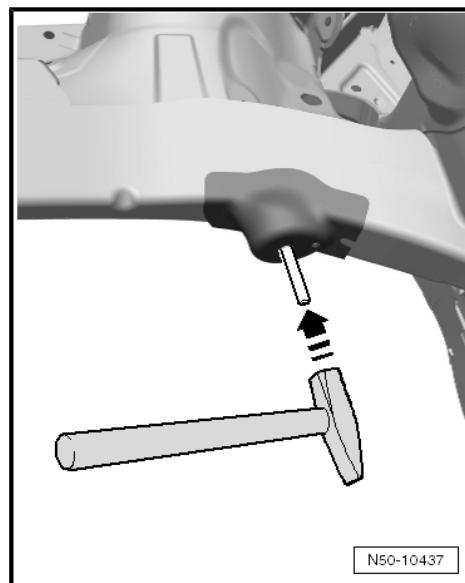


- Screw the threaded insert into the threaded plate until the threaded insert is seated flush with the outer edge of the threaded plate (check visually).
- Then tighten the threaded insert by a  $\frac{1}{4}$  turn further.
- Remove the spindle.





- Break off thread insert driver tang using tang breaker.
- Install the subframe (suspension subframe) (tightening specifications), refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40 ; Removal and Installation .





RO: 50 79 55 00

## 8 Front Longitudinal Member, Replacing

⇒ ["8.1 Tools", page 78](#)

⇒ ["8.2 Removing", page 78](#)

⇒ ["8.3 Installing", page 80](#)

Includes: Bumper Carrier



### WARNING

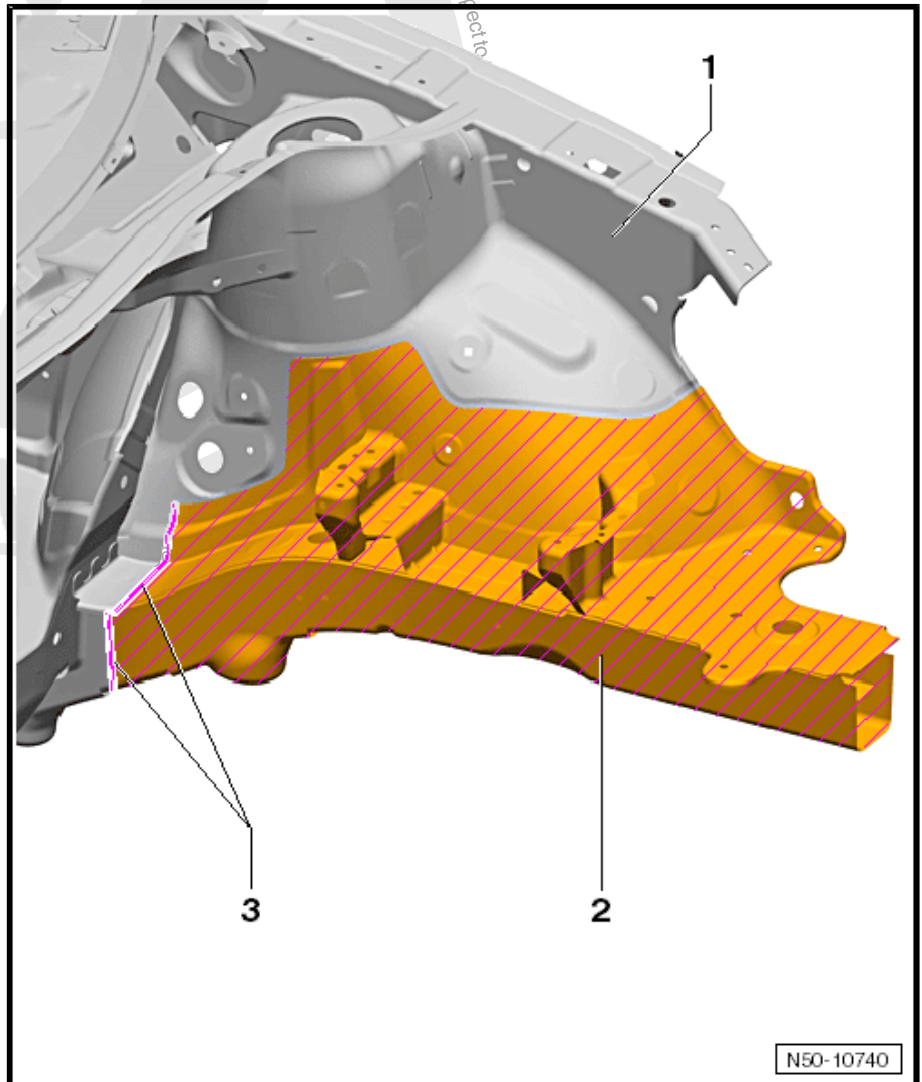
*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

1 - Wheel Housing

2 - Longitudinal Member

3 - Separation Cut, Cover Plate and Longitudinal Member





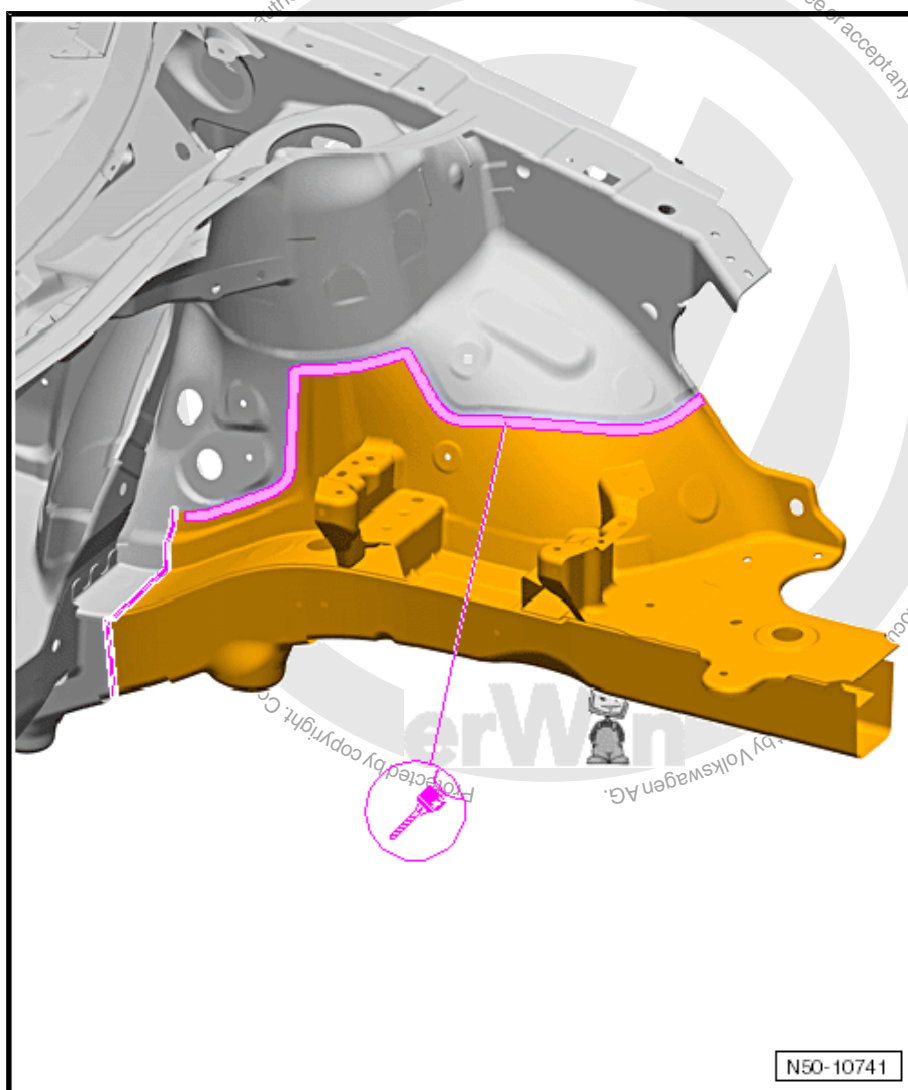
## 8.1 Tools



### Note

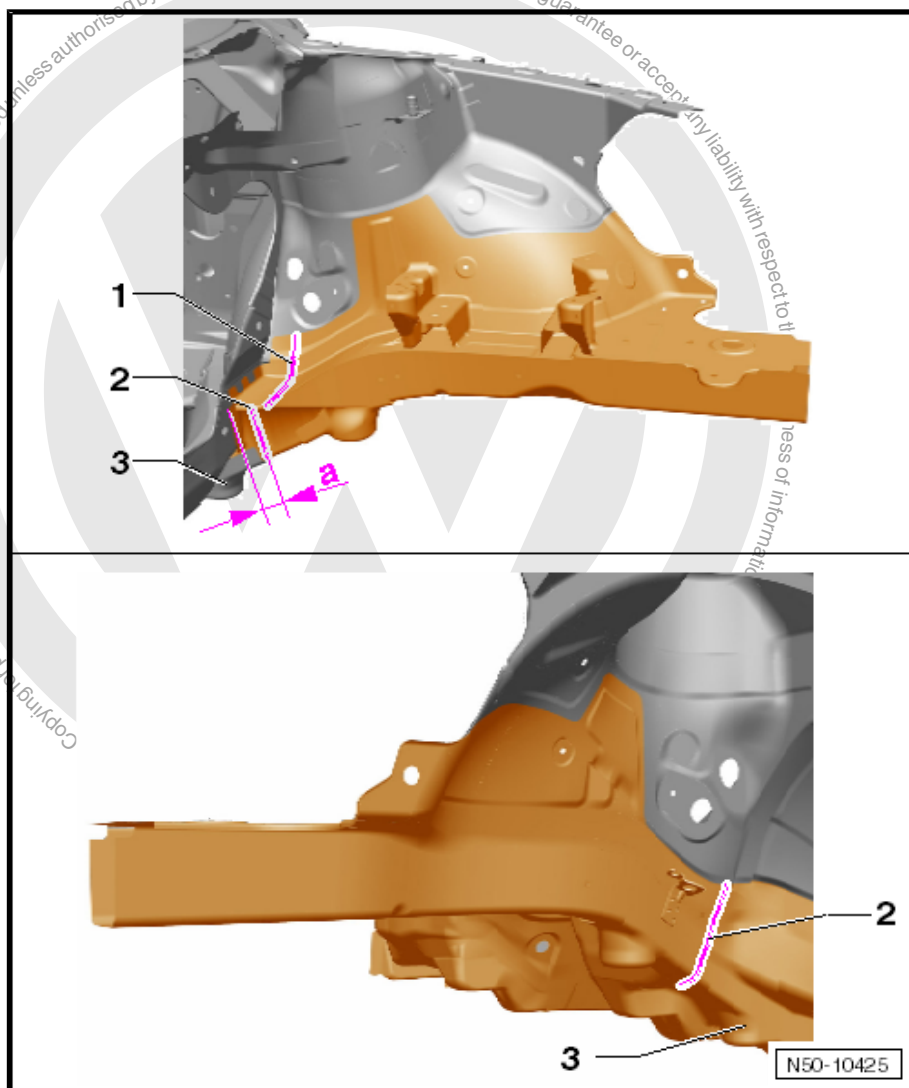
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 8.2 Removing



- Separate original joint to wheel housing.





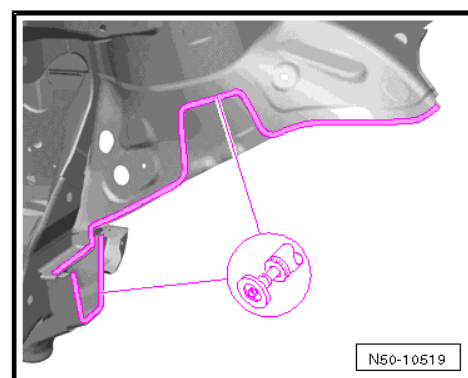
# Note

*Do not damage mounts for subframe -3-.*

The offset between separating cuts -1 and 2- should be approximately 50 mm.

**Dimension -a- = 50 mm**

- Make the separation cuts -1 and 2- as shown.
- Remove residual material.





## 8.3 Installing

⇒ [“8.3.1 Preparing New Parts”, page 80](#)

⇒ [“8.3.2 Welding”, page 81](#)

⇒ [“8.3.3 Shortening New Longitudinal Member with Cover Plate”, page 82](#)



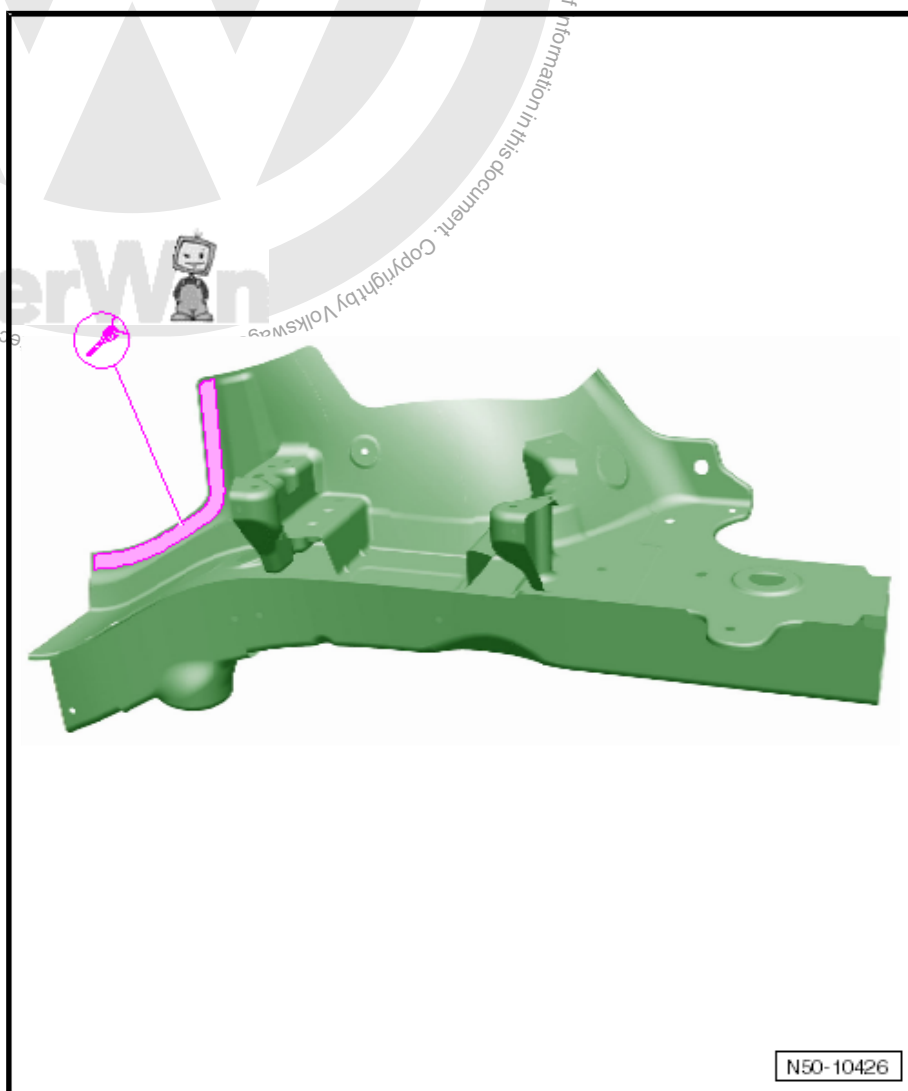
### Note

Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“8.1 Tools”, page 78](#).

## 8.3.1 Preparing New Parts

### Replacement Part

- ◆ Longitudinal Member



- Transfer separating cuts onto new part and cut to shape.
- Drill 7 mm holes for the gas-shielded arc plug weld seam.



### 8.3.2 Welding

- Fit new part to vehicle standing on Straightening Bracket Set and secure.
- Check fit with neighboring components.



- Make the wheel housing joint, straight-line spot weld seam and gas-shielded arc plug weld seam.
- Weld the longitudinal member separating cut along the circumference, gas shielded arc continuous seam.
- Weld cover plate separating cut, gas shielded arc continuous seam.



### 8.3.3 Shortening New Longitudinal Member with Cover Plate

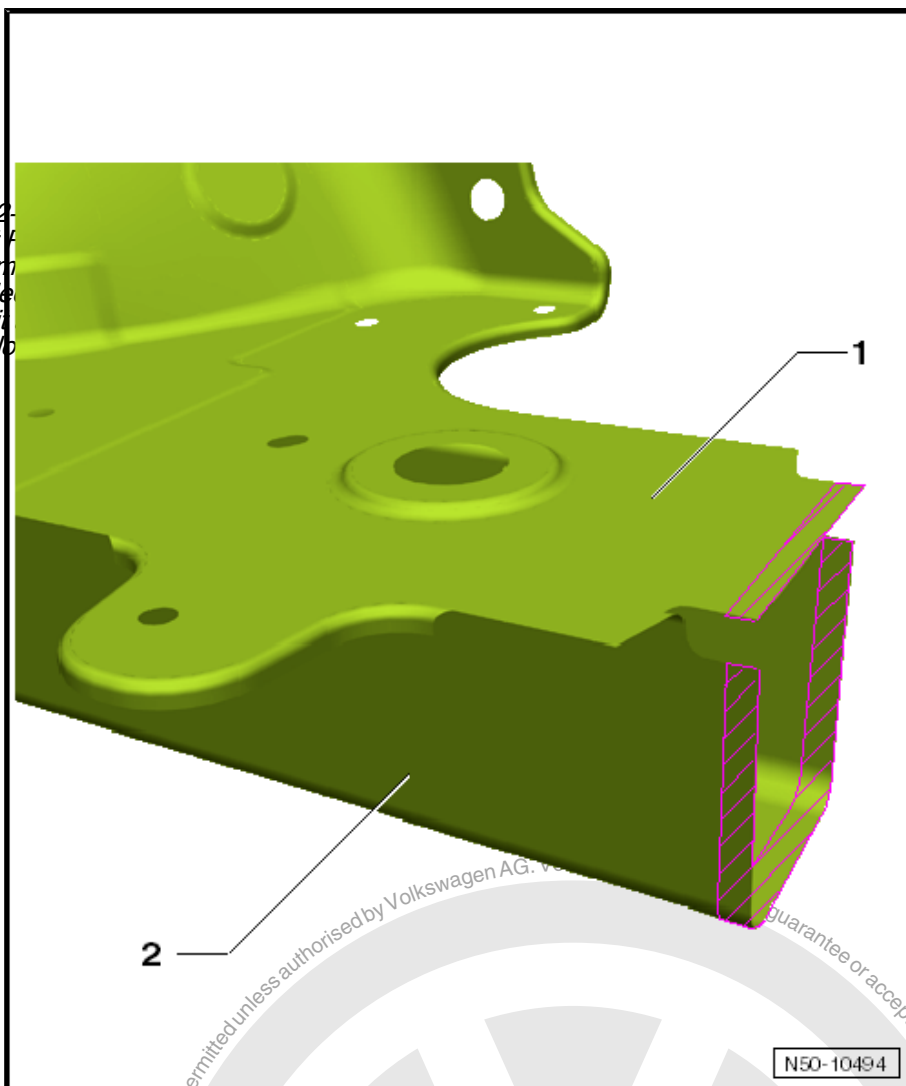
1 - Longitudinal Member Cover Plate

2 - Longitudinal Member

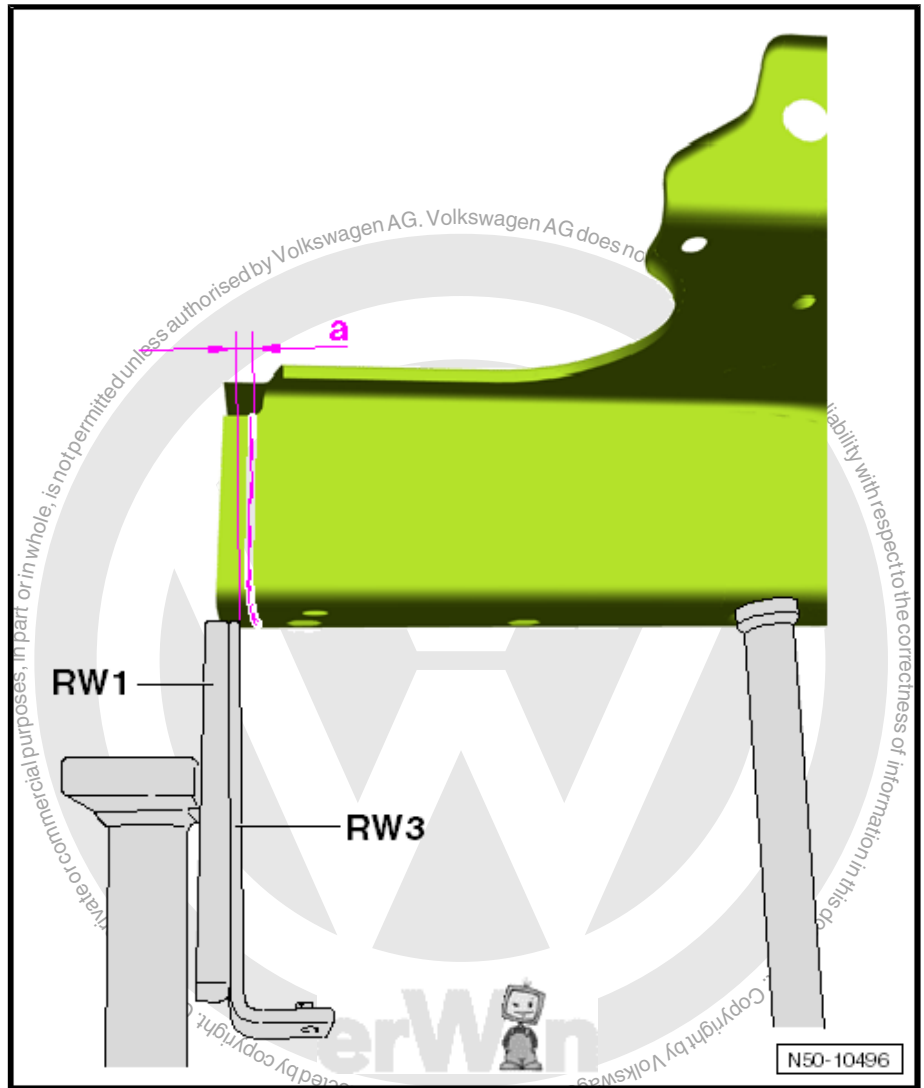


#### Note

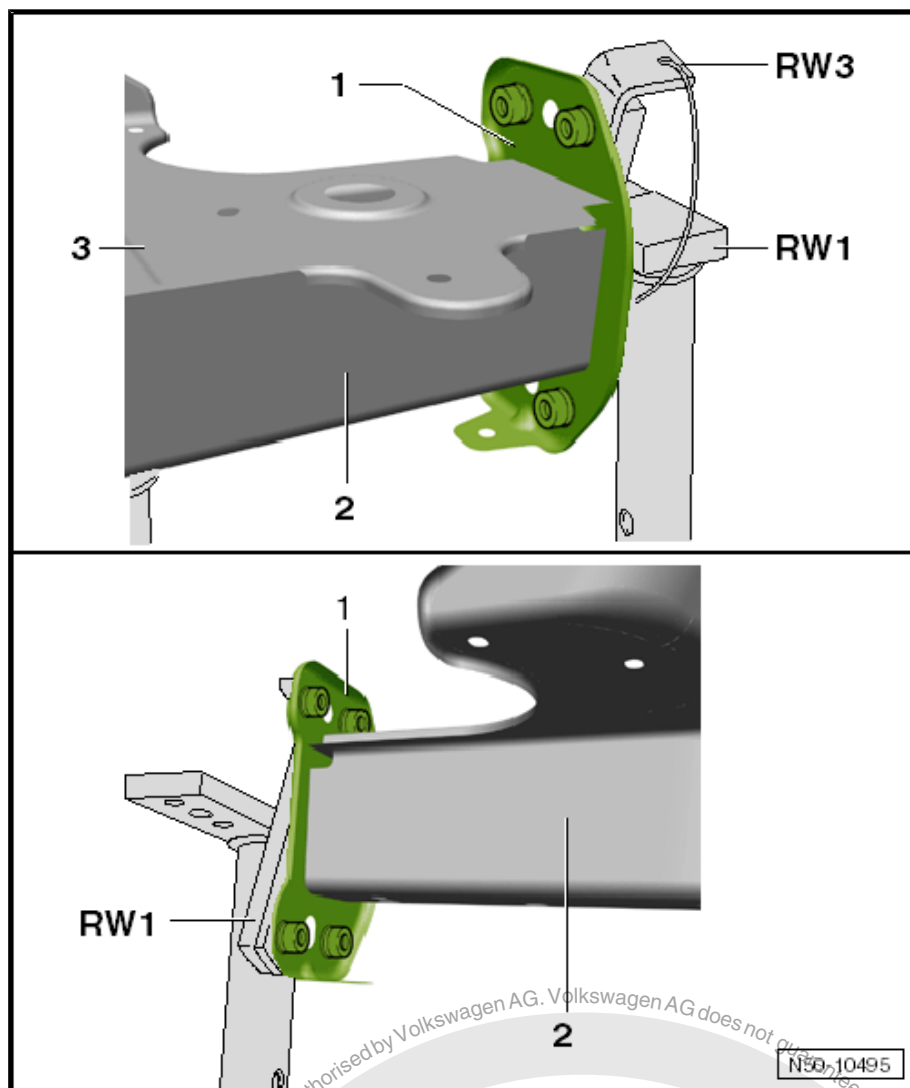
*Longitudinal member -2-  
plate -1- (Replacement  
cation: longitudinal mem  
long in front area -shade  
must be shortened to fit  
partition plate for front lo  
member.*



N50-10494



- Assemble alignment bracket for front longitudinal member -RW 1- with spacer plate -RW 3- and from below, hold at longitudinal member as shown.
- Transfer scribe dimension plus 2 mm excess -a- onto longitudinal member and cover plate and cut off surplus material.



#### Note

*Between the longitudinal member -2- with cover plate -3- and bumper bracket -1-, there should be 1-2 mm of intermediate space.*

- Secure front bumper bracket -1- using -RW 1- and -RW 3- in front of longitudinal member -2-.
- Install the front bumper bracket, refer to [⇒ "4.3 Installing", page 50](#).



RO: 50 79 55 02

## 9 Front Longitudinal Member, Partial Section, Removing and Installing

⇒ "9.1 Tools", page 86

⇒ "9.2 Removing", page 86

⇒ "9.3 Installing", page 88

Includes: Bumper Carrier



### WARNING

*Follow all safety precautions.*

Refer to – General Information; Body Repairs, Body Collision Repair

1 - Glued Area

2 - Cover Plate

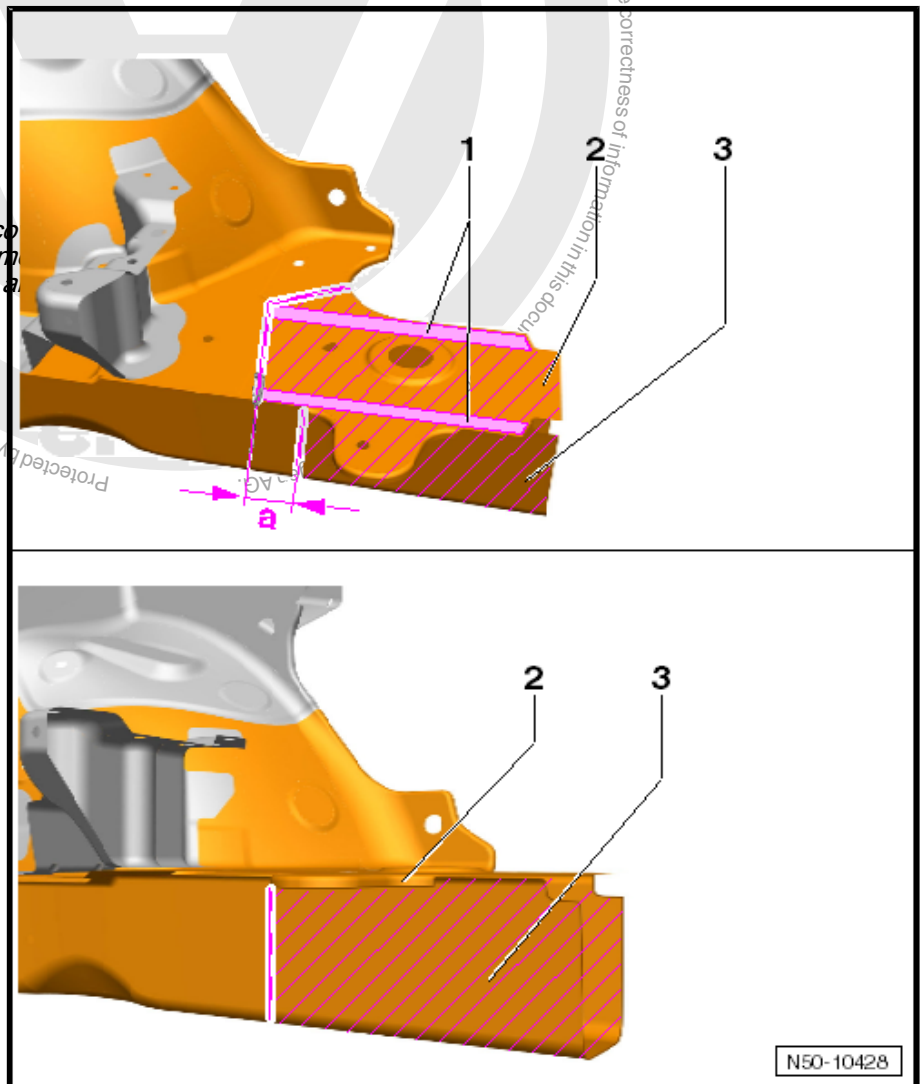
3 - Longitudinal Member



### Note

*The separation cut of cover plate 2 and of longitudinal member 3 must be arranged with a dimension -a-.*

Dimension -a- = 50 mm





## 9.1 Tools



### Note

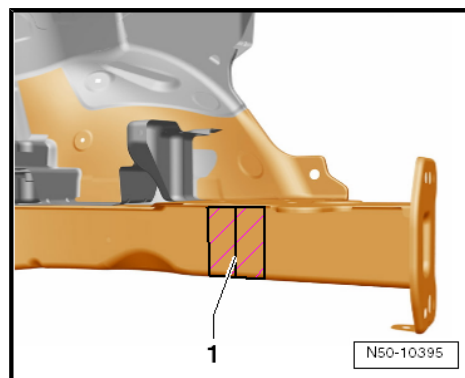
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 9.2 Removing

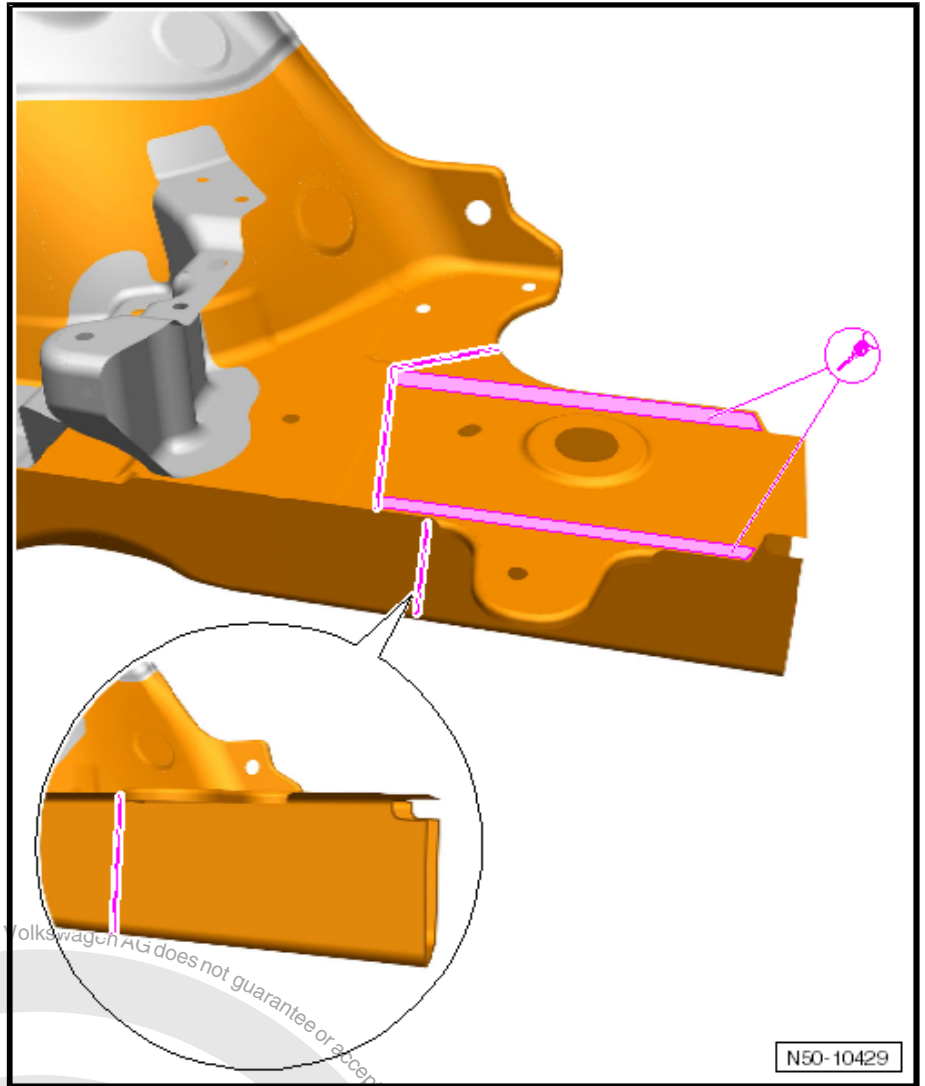


### Note

50 mm before and behind the laser seam -1- (shaded area) must not be separated nor welded.



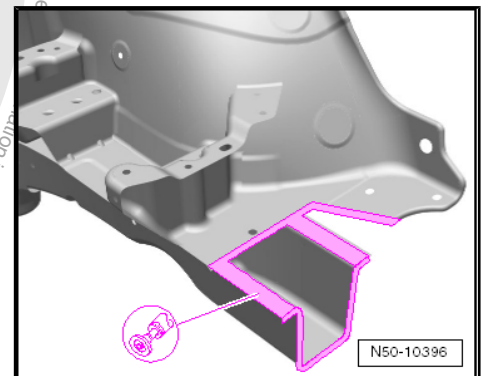




#### Note

*This separating cut is permissible only in the specified area on the longitudinal member. If the longitudinal member is damaged further, then it must be completely replaced.*

- Mark and perform separating cuts as shown.
- Separate the original joint.
- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.





## 9.3 Installing

⇒ [“9.3.1 Preparing New Parts”, page 88](#)

⇒ [“9.3.2 Welding”, page 88](#)

⇒ [“9.3.3 Shortening New Longitudinal Member with Cover Plate”, page 89](#)



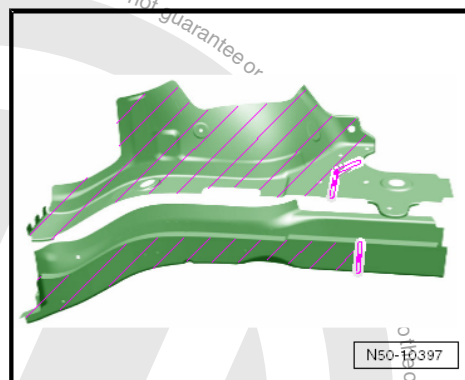
### Note

Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“9.1 Tools”, page 86](#).

### 9.3.1 Preparing New Parts

#### Replacement Part

- ◆ Longitudinal member (sub-part)
- ◆ Longitudinal member cover plate
- ◆ 2K Body Adhesive - D 180 003 M2-
- Transfer separating cuts to new parts and cut.



### 9.3.2 Welding

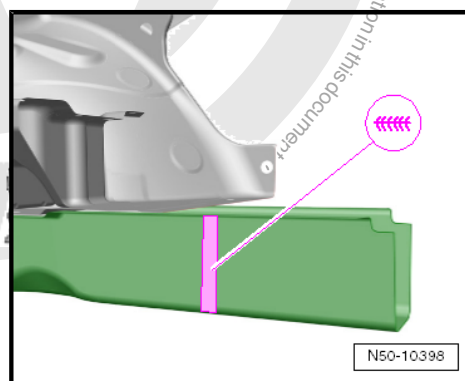
- Fit new part to vehicle standing on Straightening Bracket Set and secure.
- Check fit with neighboring components.
- Weld longitudinal member separating cut along circumference, gas shielded arc continuous seam.



### Note

New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.

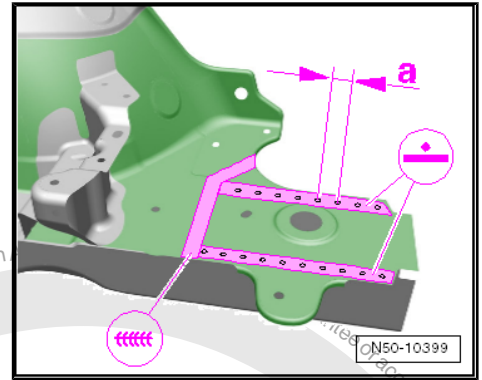
- Before fitting and welding the longitudinal member cover plate, apply 2K Body Adhesive - D 180 003 M2- in area of adhesive applied during production.





- Weld in longitudinal member cover plate, straight-line spot weld seam.
- Weld cover plate separating cut, gas shielded arc continuous seam.

Distance between welding points -a-: approximately 35 - 40 mm.



### 9.3.3 Shortening New Longitudinal Member with Cover Plate

- Shorten longitudinal member with cover plate, refer to [⇒ "8.3.3 Shortening New Longitudinal Member with Cover Plate", page 82](#).
- Weld in front bumper bracket, refer to [⇒ "4.3 Installing", page 50](#).



## 51 – Body Center, Chassis, Roof

RO: 51 03 55 00

### 1 Roof, Replacing

⇒ ["1.1 Tools", page 91](#)

⇒ ["1.2 Removing", page 93](#)

⇒ ["1.3 Installing", page 96](#)



#### WARNING

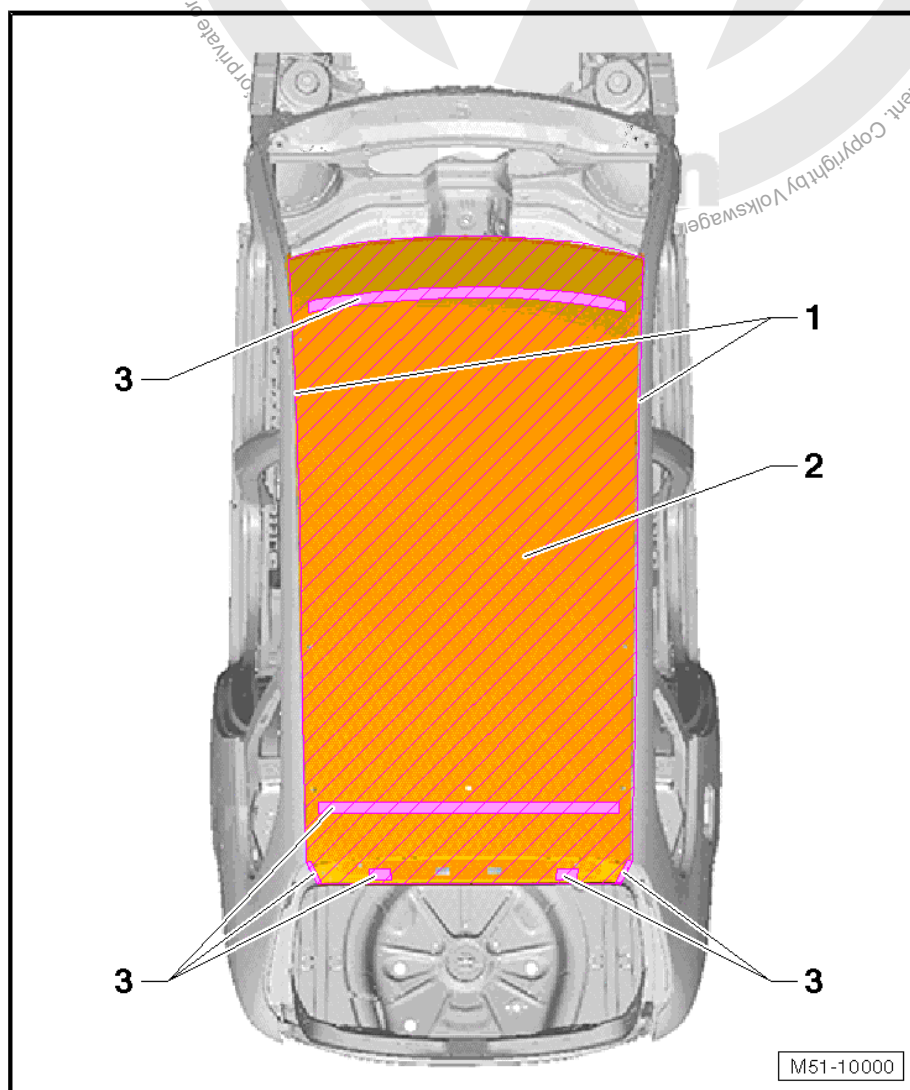
*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair ; Safety Precautions

1 - Laser Brazed Seam

2 - Roof

3 - Bonded Area





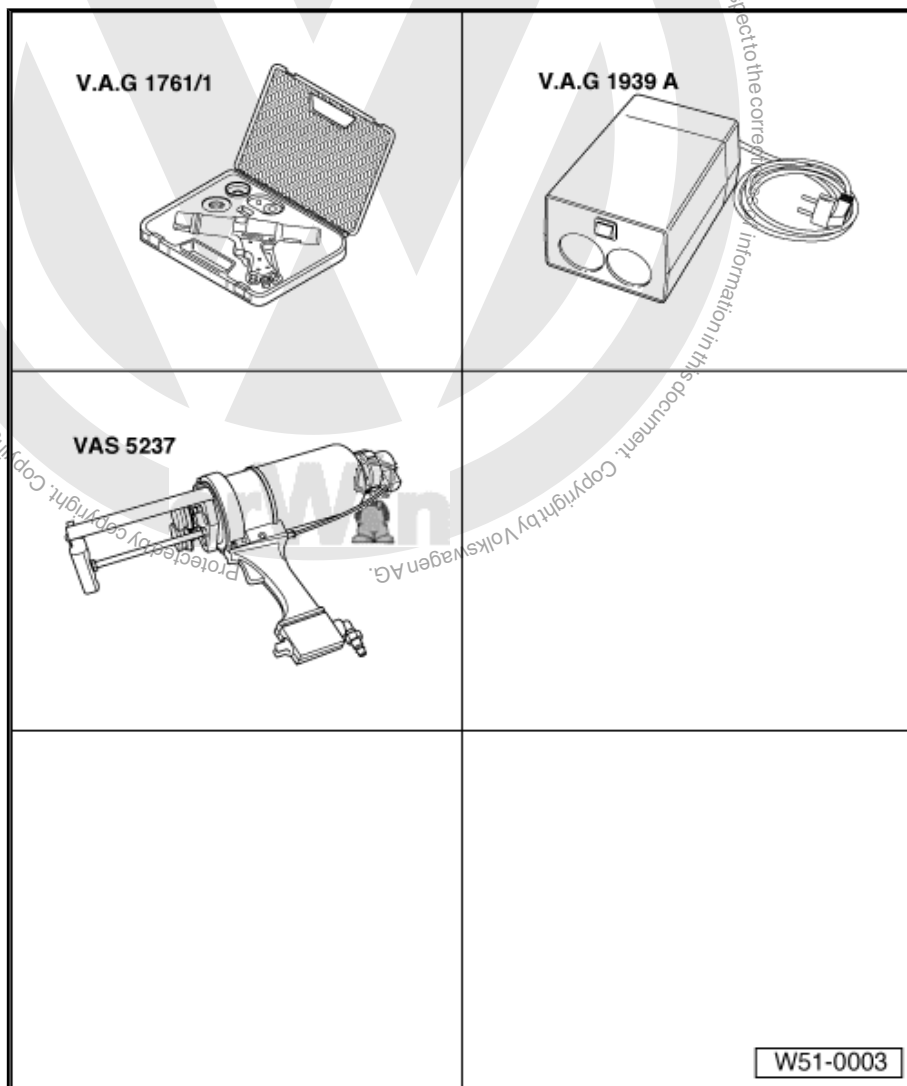
## 1.1 Tools

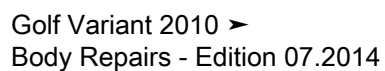


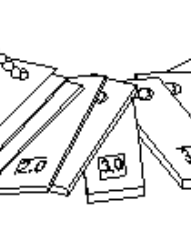
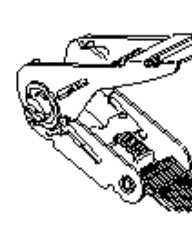

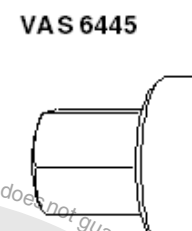
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

- ◆ Pneumatic Cartridge Gun - V.A.G 1761/1-
- ◆ Cartridge Heater - V.A.G 1939 A-
- ◆ Double Cartridge Gun - VAS5237-

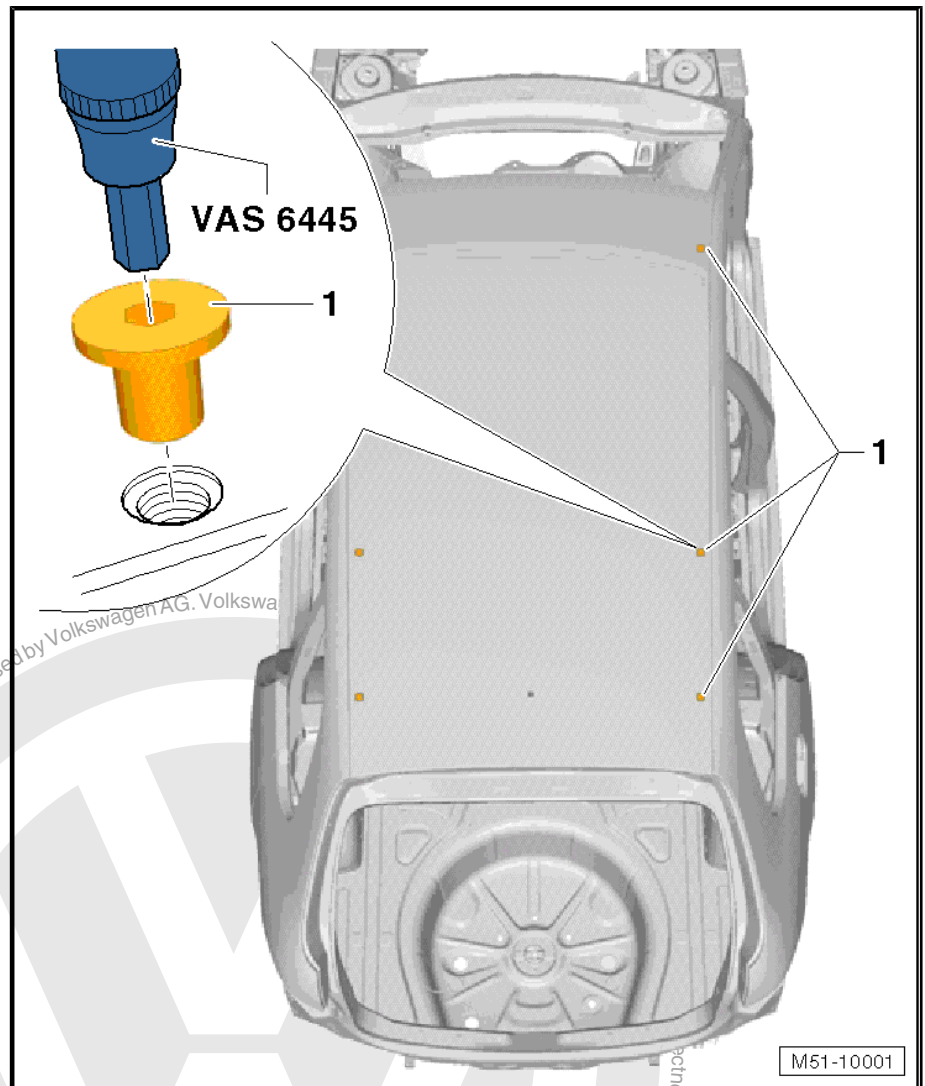




- |  |   |
|--|---|
| <p><b>3371</b></p>        | <p><b>T10038</b></p>    |
| <p><b>V.A.G 1344</b></p>  | <p><b>VAS 6445</b></p>  |
- W51-10003



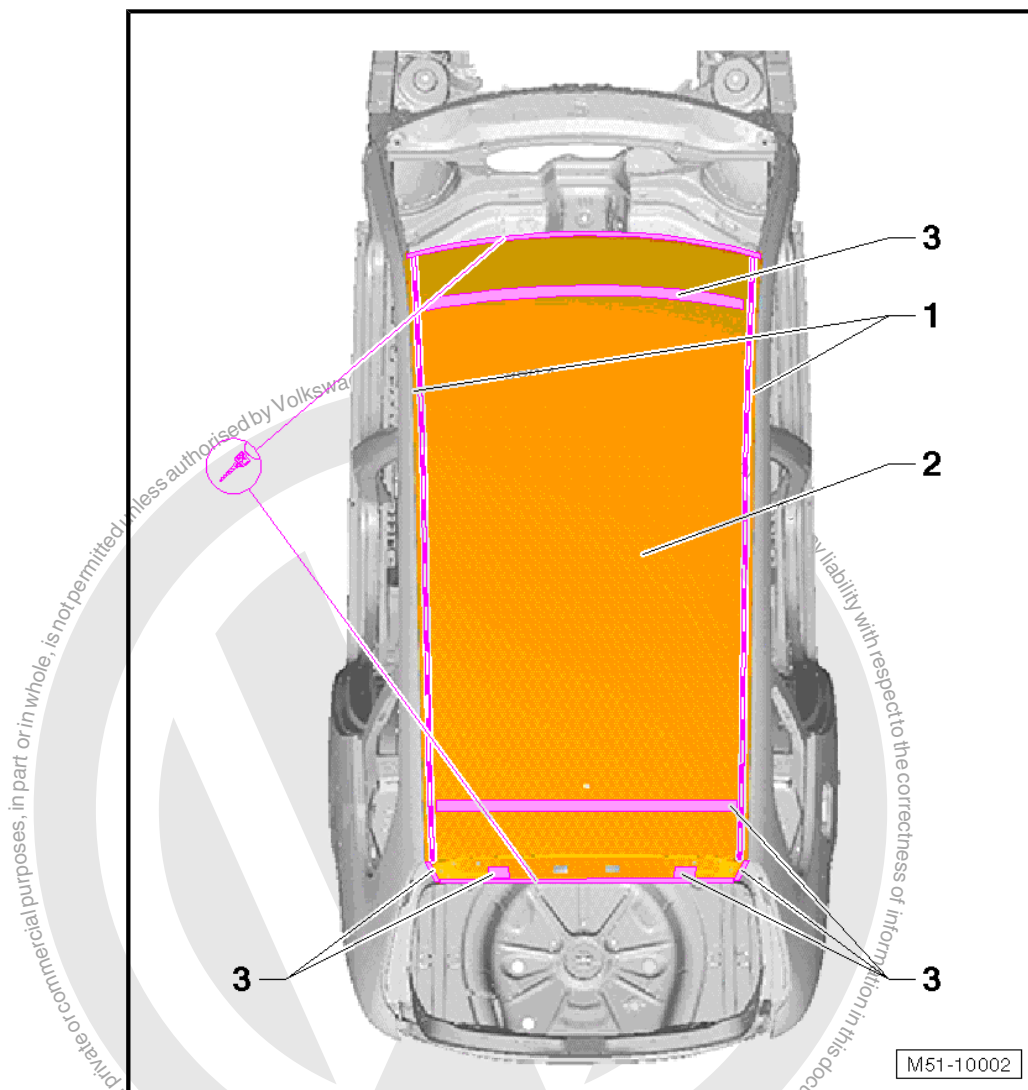
## 1.2 Removing



- Remove the threaded bushings -1- on the roof railing using a 1/4 inch Screwdriver Insert - VAS6445- .

### Note

- ◆ Apply cloth reinforced adhesive tape parallel to the laser brazed seams on the left and right side of the roof pillars. It prevents pillars from getting damaged or dirty while servicing.
- ◆ Keep at least approximately 15 mm away when separating the roof to avoid damaging it.
- ◆ Be careful not to cut into the plates behind it when making the separation cuts.



### Vehicles with Roof Reinforcement

- Cut the original joint on the roof reinforcement.

### All Vehicles

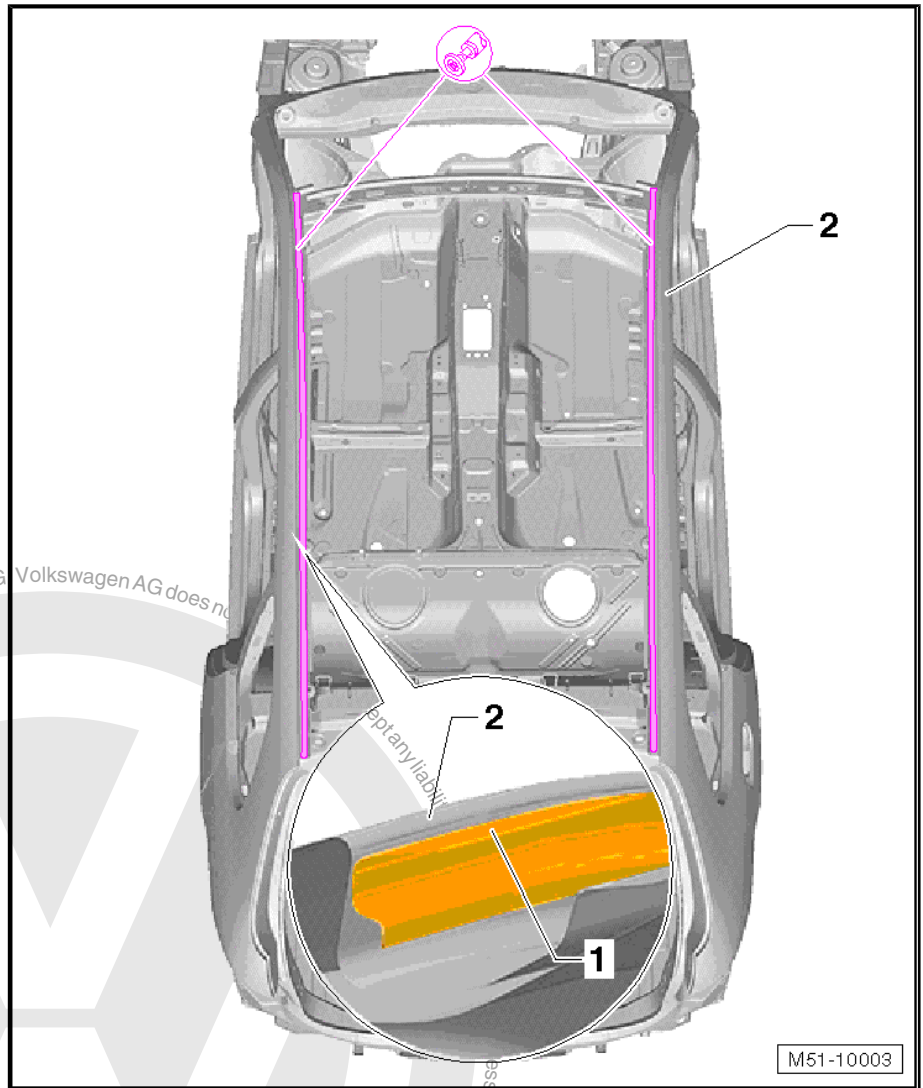
- Cut the original joint at the front of the roof crossmember.
- Cut the original joint inside the rear lid opening.
- Cut the bonded joints on the front and rear roof crossmembers -3- from the inside.
- Roughly cut out the roof -2- parallel with the laser brazed seams -1-.



### Note

- ◆ Be careful not to damage the roof pillar -2- when removing any remaining roof material -1-.
- ◆ Do not use separating- or roughing blades; use a Lamellar disc instead.





- Remove residual material.
- Remove any excess adhesive and sealant on the front and rear roof crossmembers.
- Remove any remaining adhesive on the left and right roof pillars.
- Apply corrosion protection, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials



## 1.3 Installing

⇒ [“1.3.1 Preparing New Parts”, page 96](#)

⇒ [“1.3.2 Roof Depth Dimension, Adjusting”, page 99](#)

⇒ [“1.3.3 Roof, Bonding”, page 99](#)

⇒ [“1.3.4 Welding”, page 106](#)



### Note

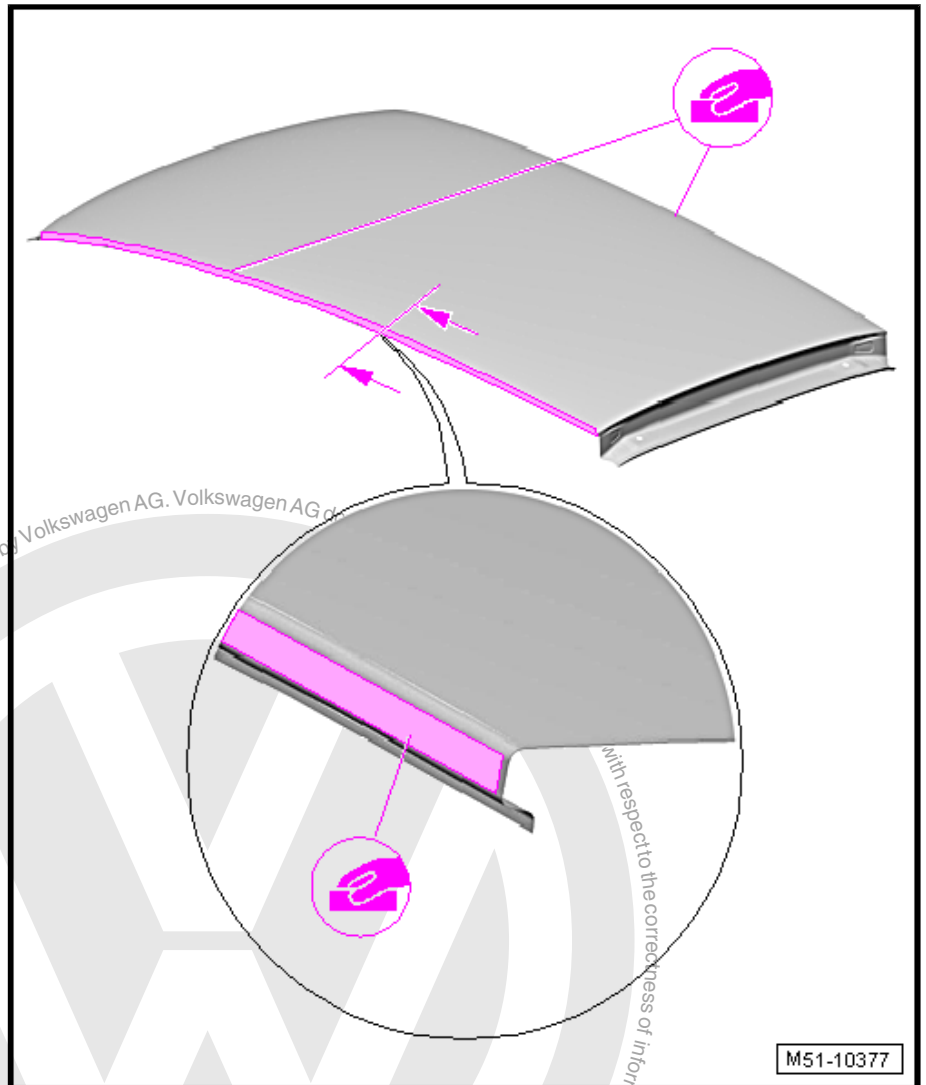
- ◆ *Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“1.1 Tools”, page 91](#).*
- ◆ *In order to guarantee problem-free and long lasting roof repair, the following work procedure must always be followed.*
- ◆ *Be sure to follow the work procedure exactly to prevent making any mistakes.*

## 1.3.1 Preparing New Parts

### Replacement Part

- ◆ Roof
- ◆ 1K Assembly Adhesive - D 190 MKD A3- , (3 cartridges)
- ◆ 2K Body Adhesive - D 180 003 M2- (2 cartridge sets)
- ◆ Adhesive - AKD 476 KD5 05-
- ◆ Felt - 533 867 910 B-
- ◆ Cavity Sealant - AKR 321 M15 4-

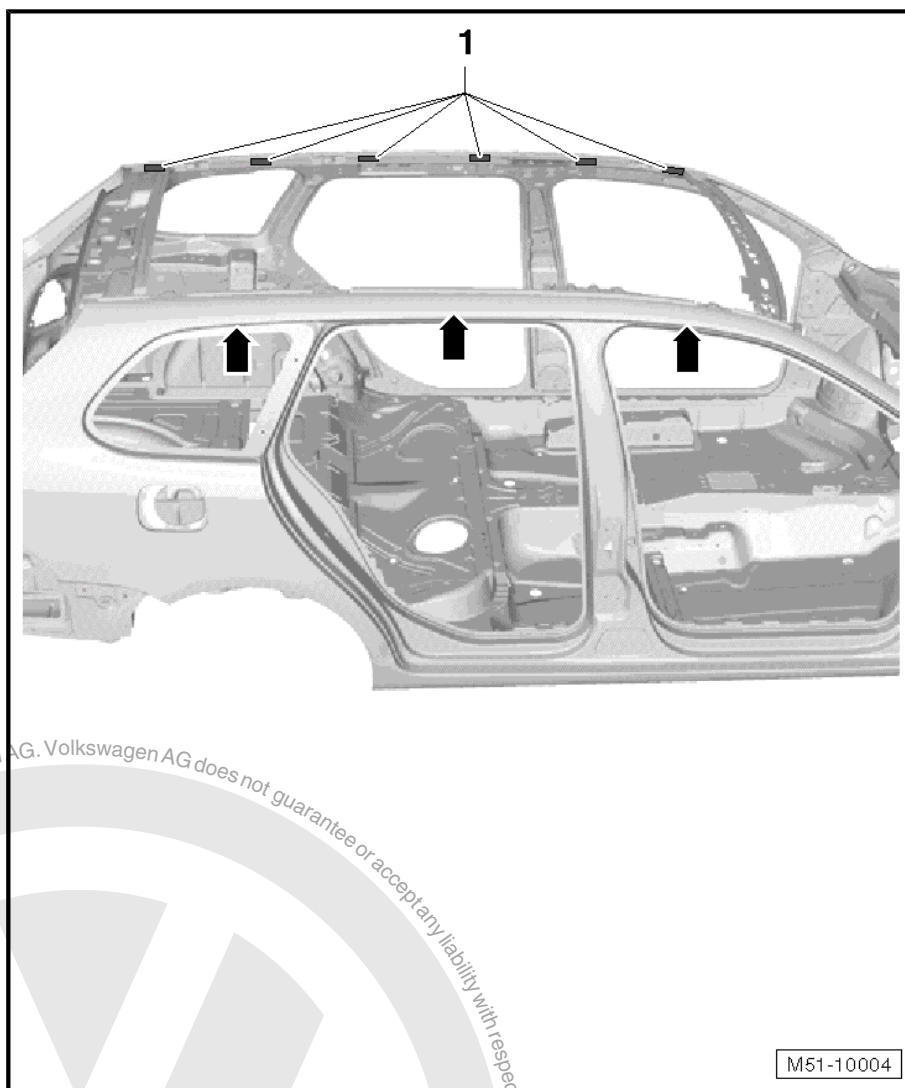




- Sand the left and right adhesive areas on the roof down to the bare metal.

This ensures that the 2K Body Adhesive - D 180 KD3 A2- can achieve a good bond with the adhesive surfaces.

- Attach four Double Suction Lifters - V.A.G 1344- on the outer side of the roof.
- Mount the roof onto the roof frame.
- Make sure the roof fits correctly with the rear lid and the wind-shield.



Install pieces of felt -1- on the left and right sides of the roof frame if needed.

Place roof on roof frame and verify placement to side parts and side wall frames (visual inspection).

Verify placement of the roof to the rear hatch and the windshield.

- Tension the three Tensioning Straps - T10038- across the roof near the door openings and the side window -arrows-.

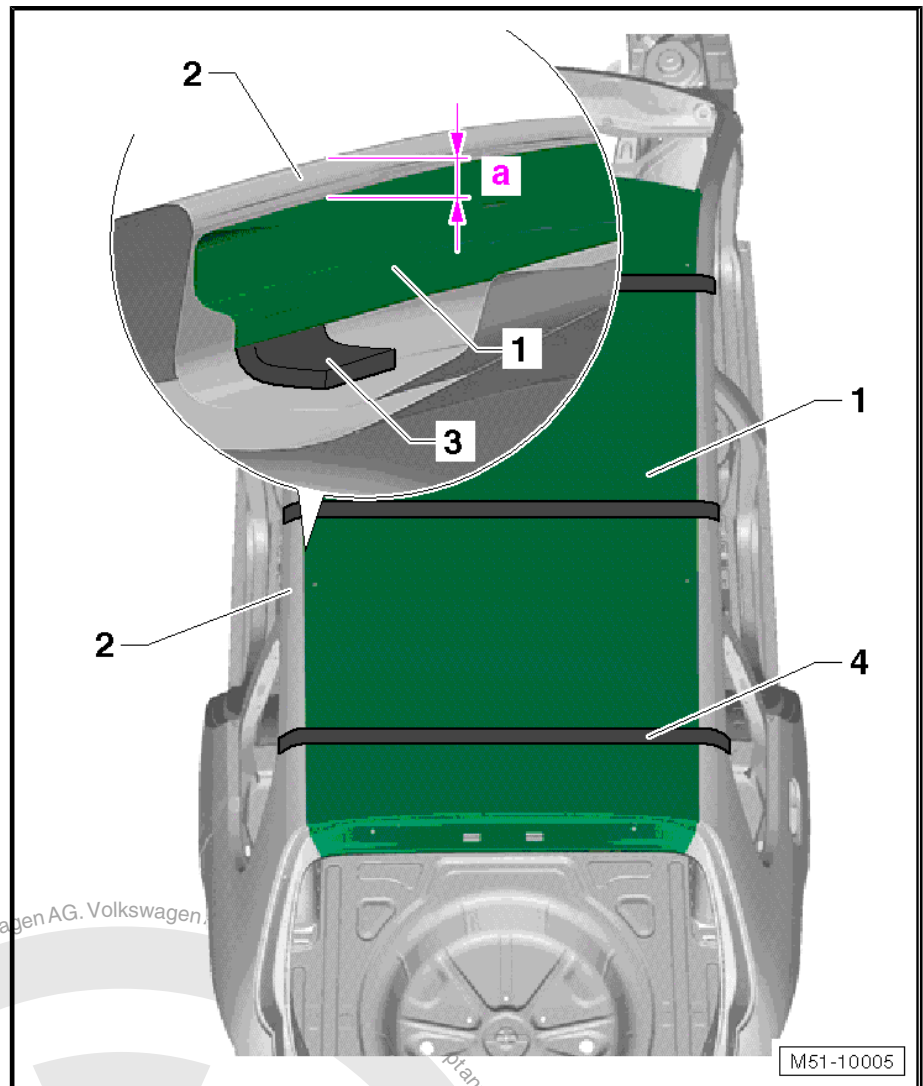


#### Note

- ♦ The tension straps prevent roof from lifting off the roof frame and sliding during the adhesive procedure.
- ♦ To prevent damage, do not overtighten the tensioning straps.
- ♦ If the side windows are already installed, then position the tensioning strap around the entire vehicle.



### 1.3.2 Roof Depth Dimension, Adjusting



#### Note

- ◆ Tighten or loosen the tensioning straps -4- to reach dimension -a- so that the roof is lower than the side panels -2-.
- ◆ Use the Gauge - Gap Adjustment - 3371- to check dimension -a-.
- ◆ If the dimension -a- is exceeded, place the Felt Piece - 533 867 910 B- -3- on the roof fame to even it out.
- ◆ If the rear dimension -a- cannot be adjusted, it may be necessary to remove the rear roof crossmember and to weld it again, refer to ⇒ **"5 Rear Roof Crossmember, Replacing", page 125**.

Dimension -a- = 3.5 mm ± 0.5 mm

- Remove roof again.

### 1.3.3 Roof, Bonding

- Clean the adhesive surfaces on the roof and the vehicle with Silicone Remover - LSE 020 100 A3-.



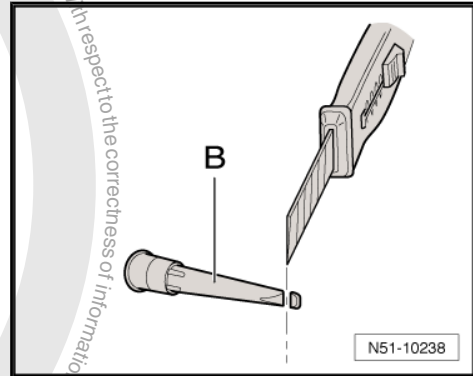
#### Note

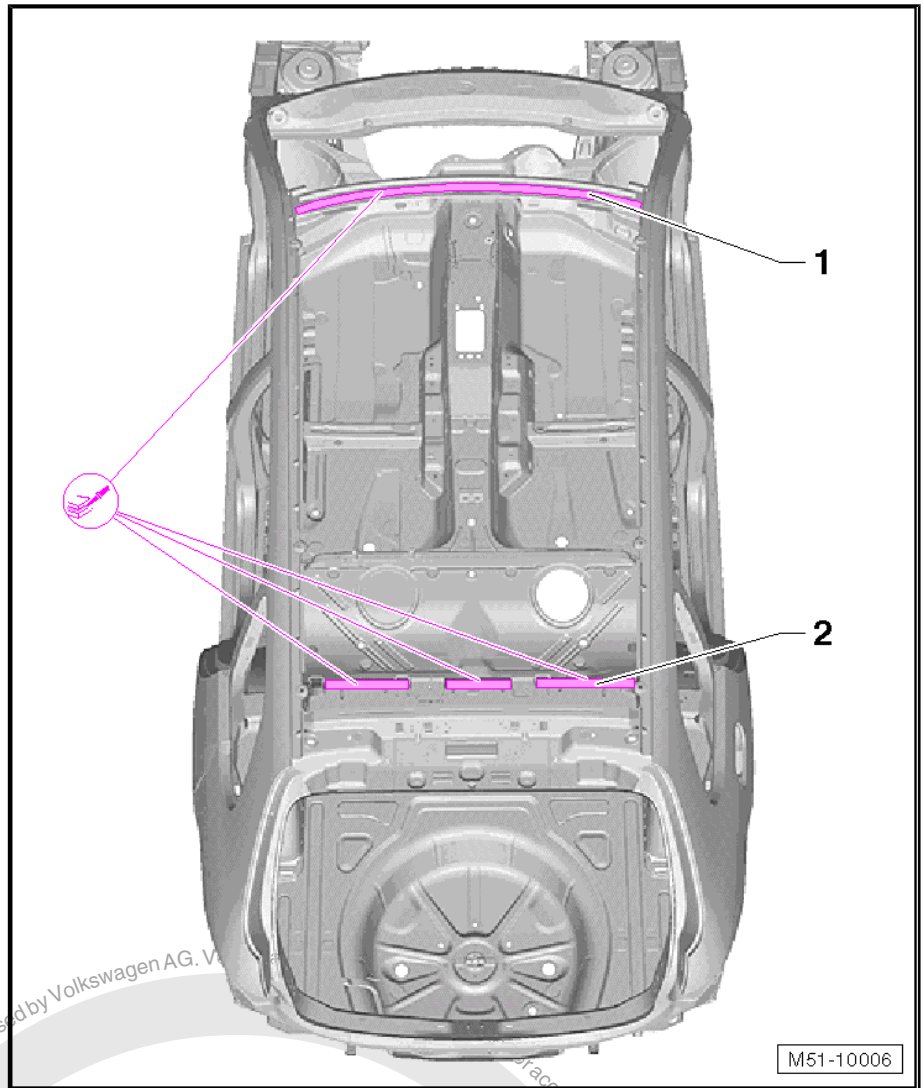
- ◆ *Adhesive materials must be applied very quickly.*
- ◆ *Always observe processing time (time on pot).*
- ◆ *Use compressed air gun or electric cartridge pistol to apply the adhesive materials.*
- For the corresponding bead geometry, cut off approximately 2 mm from the tube -B-.



#### Note

- ◆ *In order to guarantee problem-free and long lasting roof repair, the following work procedure must always be followed.*
- ◆ *Adhesion area must not be coated with primer before adhering the roof.*
- ◆ *When apply 2K body adhesive, make sure all bare spots are covered with the adhesive to prevent corrosion or bubbles at a later time.*
- ◆ *Be sure to follow the work procedure exactly to prevent making any mistakes.*



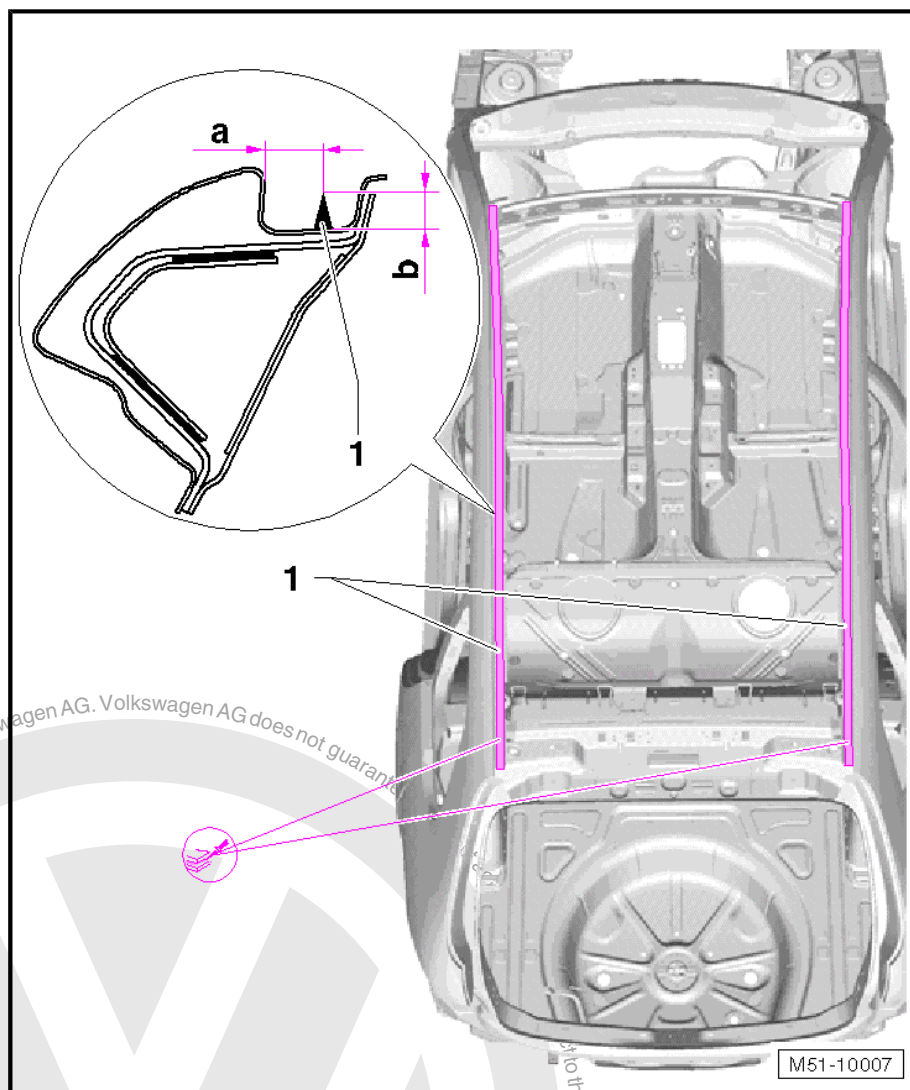


- First apply 1K Assembly Adhesive - D 190 MKD A3- using the Pneumatic Cartridge Gun - V.A.G 1761/1- to the front roof crossmember -1- and the rear roof crossmember -2- in the area where adhesive was applied during production.

#### Vehicles with Roof Reinforcement

- Apply 1K Assembly Adhesive - D190 MKD A3- using the Pneumatic Cartridge Gun - V.A.G 1761/1- on the roof reinforcement in the area near the adhesive applied at the factory.



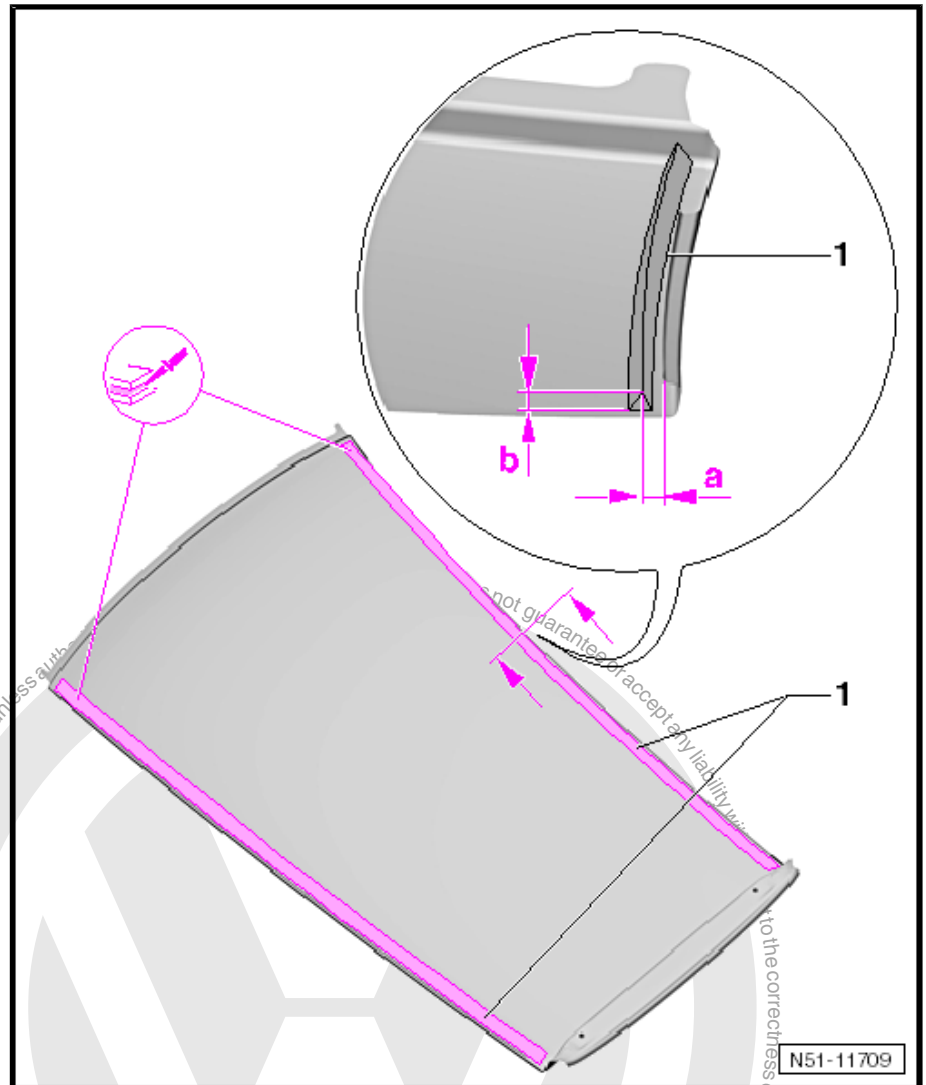


Apply 1K Assembly Adhesive - D190 MKD A3- -1- using the Pneumatic Cartridge Gun - V.A.G 1761/1- in the area of the roof frame.

**Dimension -a- = approximately 10 mm.**

**Dimension -b- = approximately 11 mm**





- Apply 1K Assembly Adhesive - D190 MKD A3- -1- using the Pneumatic Cartridge Gun - V.A.G 1761/1- on the inside of the roof parallel to the left and right roof flange.

Dimension -a- = approximately 10 mm.

Dimension -b- = approximately 11 mm

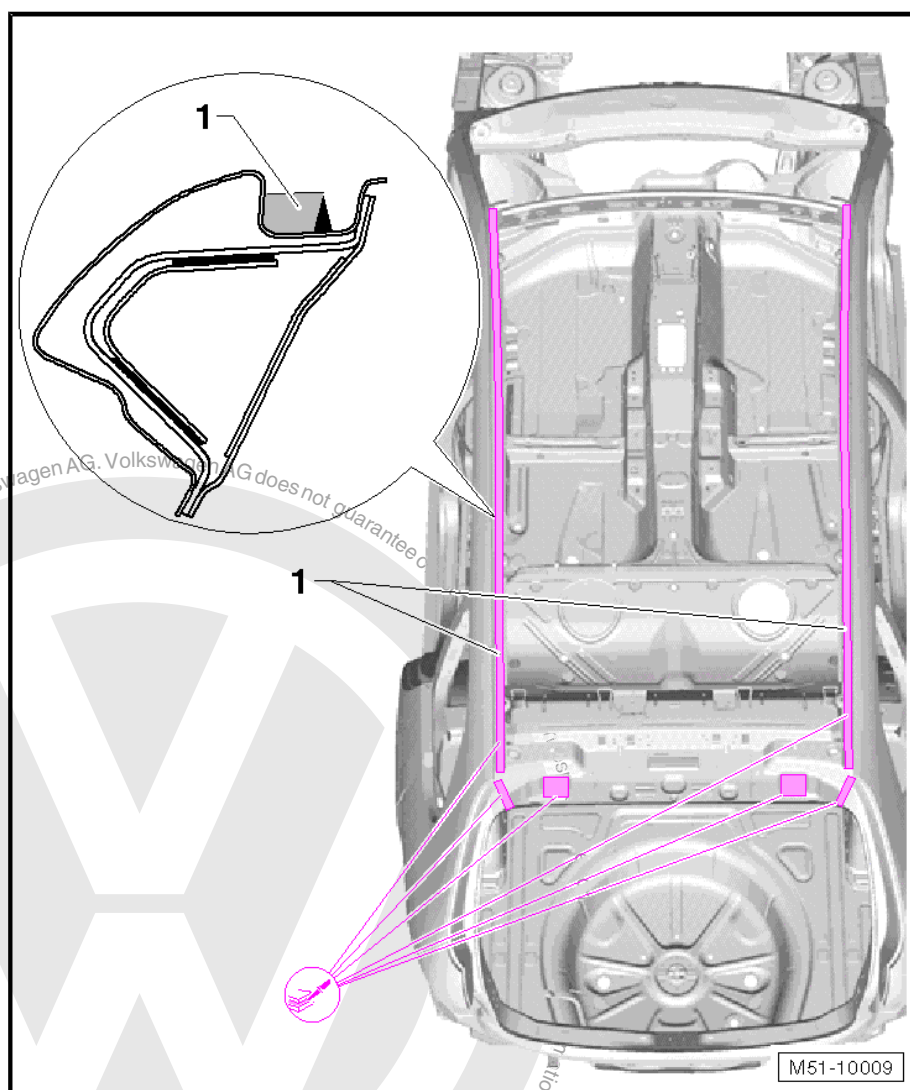
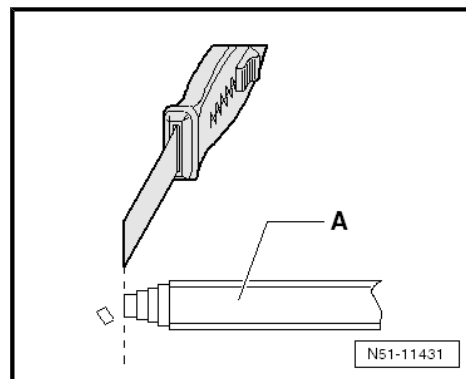


#### Note

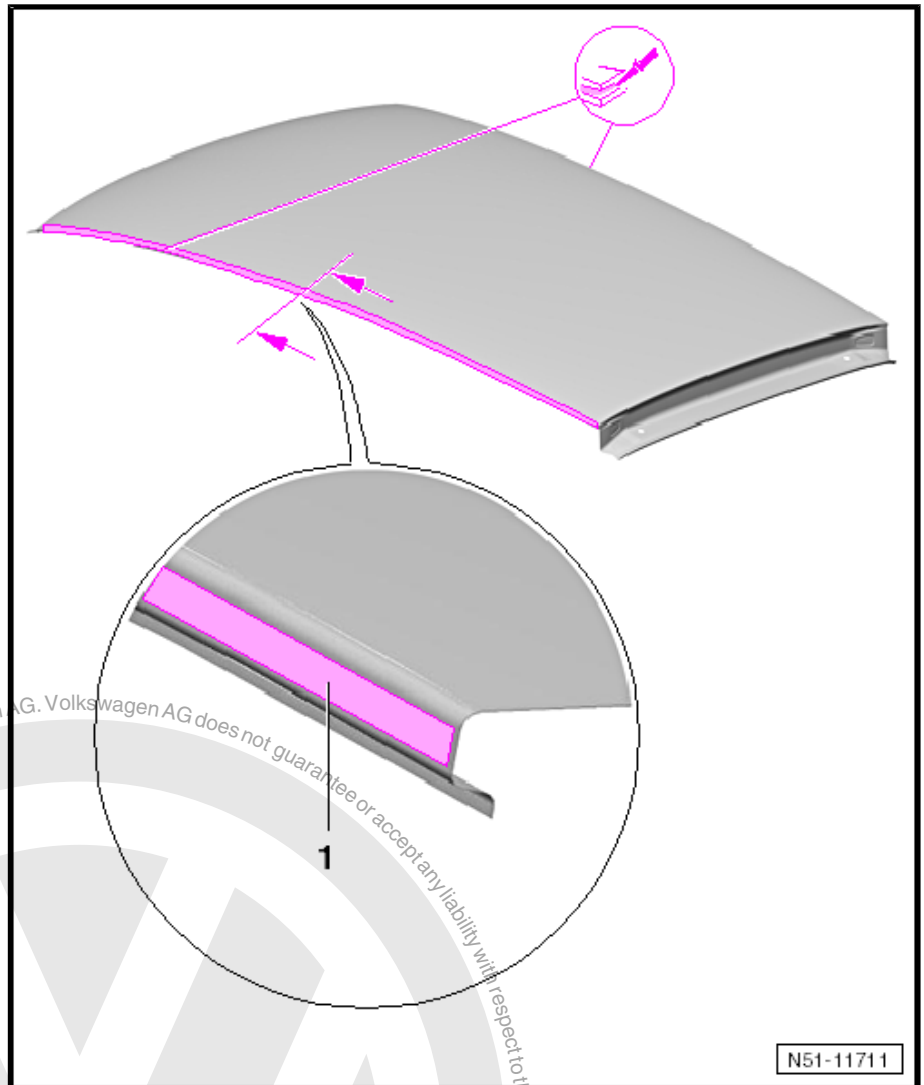
- ◆ Processing time (pot life) for 2K Body Adhesive - D 180 KD3 A2- is approximately 90 minutes.
- ◆ An assistant is required for the following work steps.
- ◆ Immediately remove any 2K Body Adhesive - D 180 KD3 A2- that leaks out. 2K Body Adhesive - D 180 KD3 A2- can only be removed mechanically once it has hardened.



- Cut off the first section of the static mixer -A- to get the correct bead diameter.
- Operate the Double Cartridge Gun - VAS5237- without mixer, until adhesive extrudes evenly out of both chambers of cartridge union.
- Attach the mixer to the cartridge union.
- Apply the first 100 mm of adhesive onto a piece of cardboard and only then begin the application on the vehicle.



- Now fill the area -1- with 2K Body Adhesive - D 180 003 M2- using the Double Cartridge Gun - VAS5237- .
- Apply the 2K Body Adhesive - D 180 003 M2- to the rear roof crossmember near the adhesive applied at the factory.



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Coat the roof flange with 2K Body Adhesive - D 180 003 M2-1-.

Mount the roof immediately and align it.

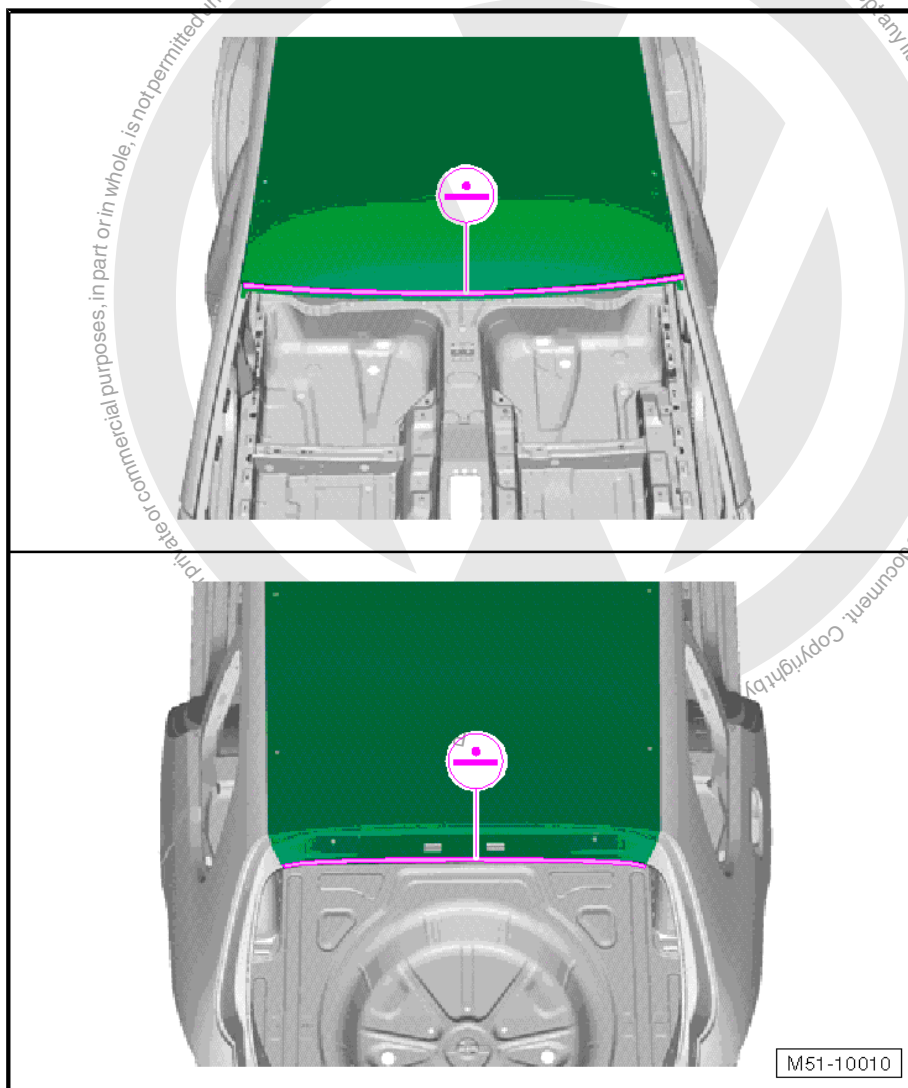
- Secure the roof to the openings for the front window and the rear lid as well as to the center area with the tensioning straps using locking pliers.
- Check the roof depth dimension -a- and adjust if necessary, refer to ⇒ ["1.3.2 Roof Depth Dimension, Adjusting", page 99](#).
- Immediately remove any 2K Body Adhesive - D 180 003 M2- that leaks out at the roof edge with a cloth soaked in Silicone Remover - LSE 020 100 A3-.
- Remove any 2K Body Adhesive - D 180 003 M2- that leaks out of the hinge holes in the rear lid opening.



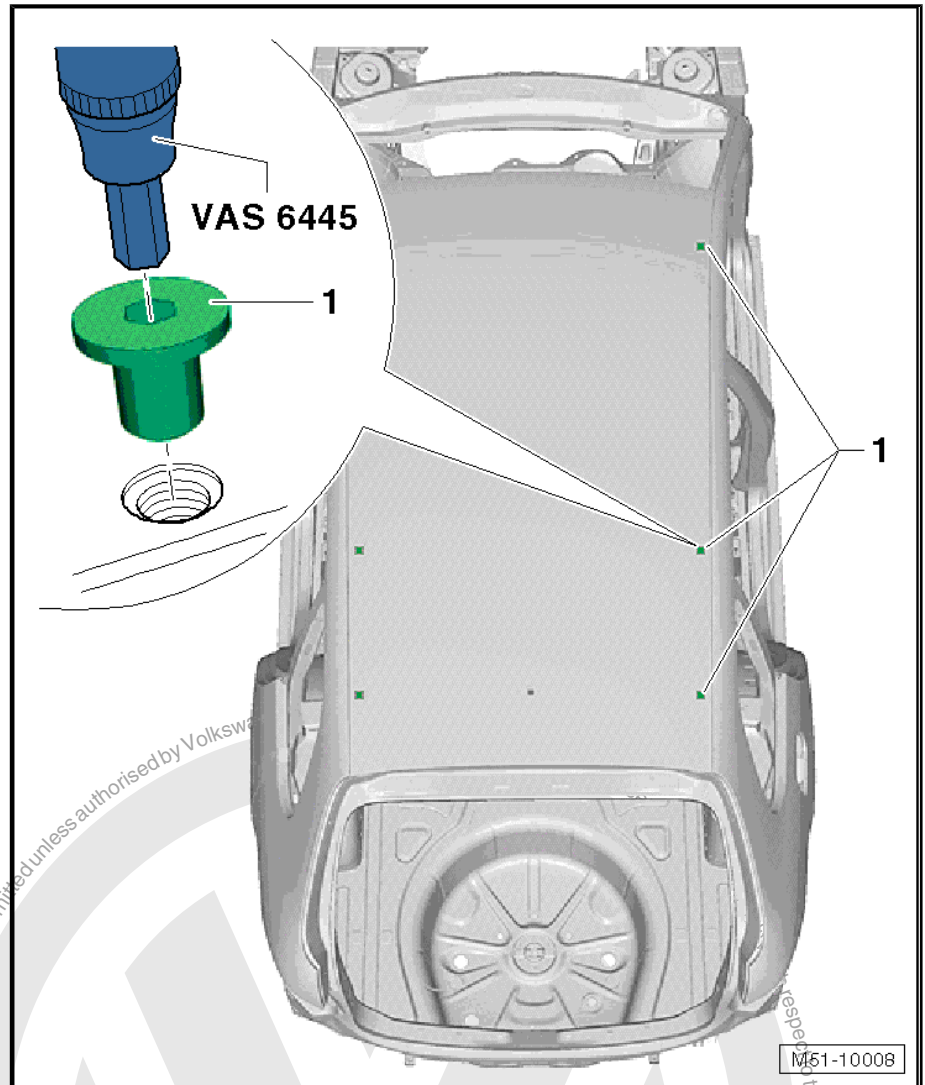
#### Note

- ◆ After adhering, vehicle must stand on a level surface at room temperature (at least 15 °C (59 °F)) for 8 to 10 hours so the adhesive components can cure.
- ◆ Only after "curing time" has elapsed can further work be performed on the vehicle.

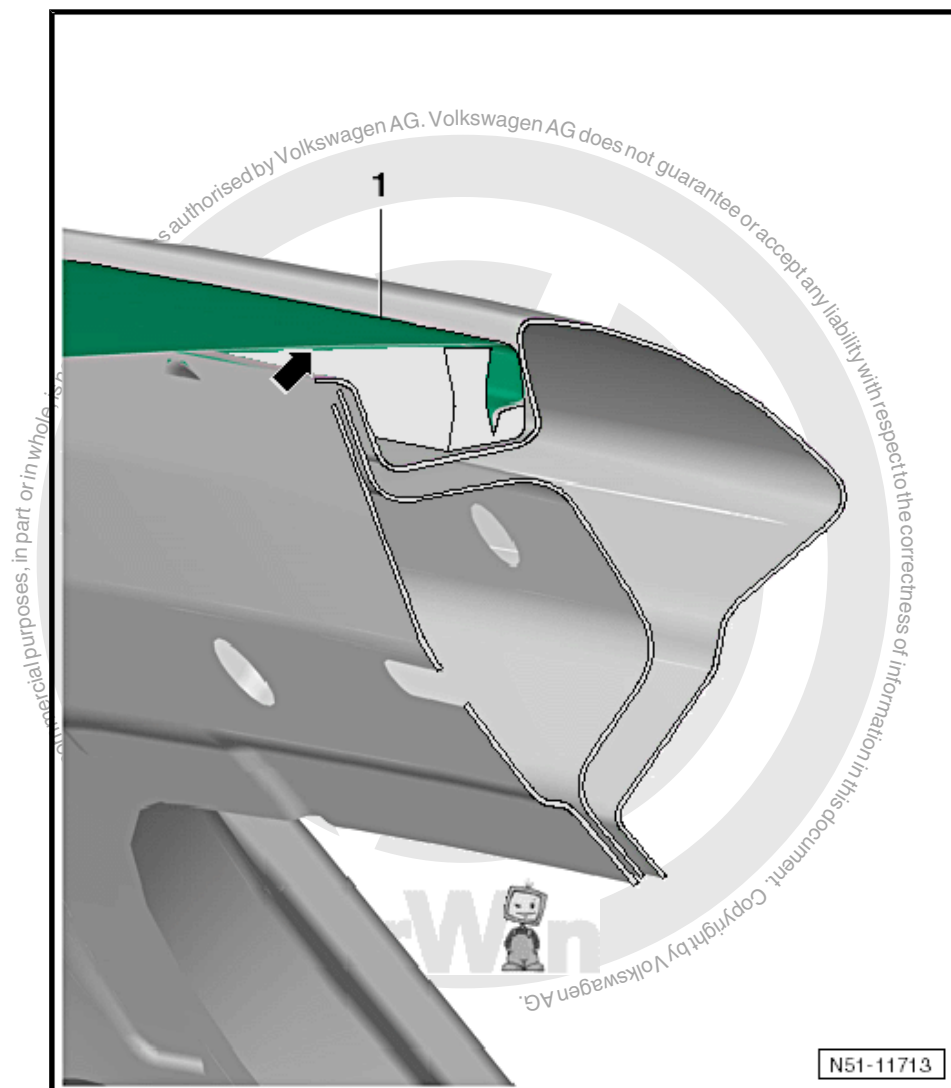
### 1.3.4 Welding



- Weld the roof to the windshield opening and to the rear lid opening using a straight-line spot weld seam.



- Tighten the threaded bushings -1- on the roof railing using a 1/4 inch Screwdriver Insert - VAS6445-. Tightening specification: 24 Nm.



- Prime the left and right sides of the roof frame from the inside with Primer - ALN 002 003 04- .
- Apply a fine-seal of adhesive seam -1- to the seam between the roof and the roof pillar with Adhesive - AKD 476 KD5 05- .
- After painting, protect hollow roof spaces -arrow- with Cavity Sealant - AKR 321 M15 4- .





RO: 51 05 55 00

## 2 Roof Pillar, Removing and Installing

⇒ ["2.1 Tools", page 110](#)

⇒ ["2.2 Removing", page 110](#)

⇒ ["2.3 Installing", page 111](#)



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

⇒ General Information; Body Repairs, Body Collision Repair

### 1 - Roof Pillar

### 2 - Separating Cuts

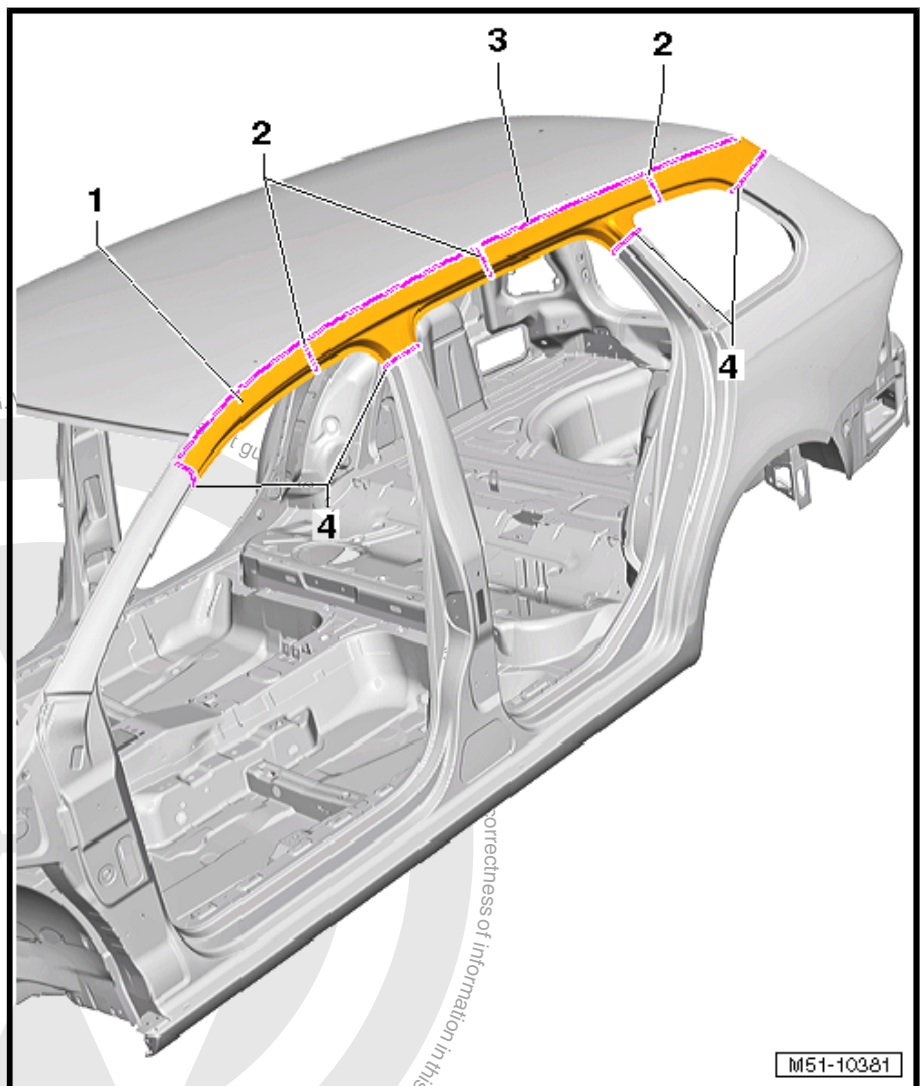
Partial renewal

*A partial replacement on the roof pillar is possible with these separating cuts.*

*Pay close attention to the replacement part separation cut for the sub-part when performing a partial replacement.*

### 3 - Separating Cut on the Roof

### 4 - Pillar Separation Cuts





## 2.1 Tools



### Note

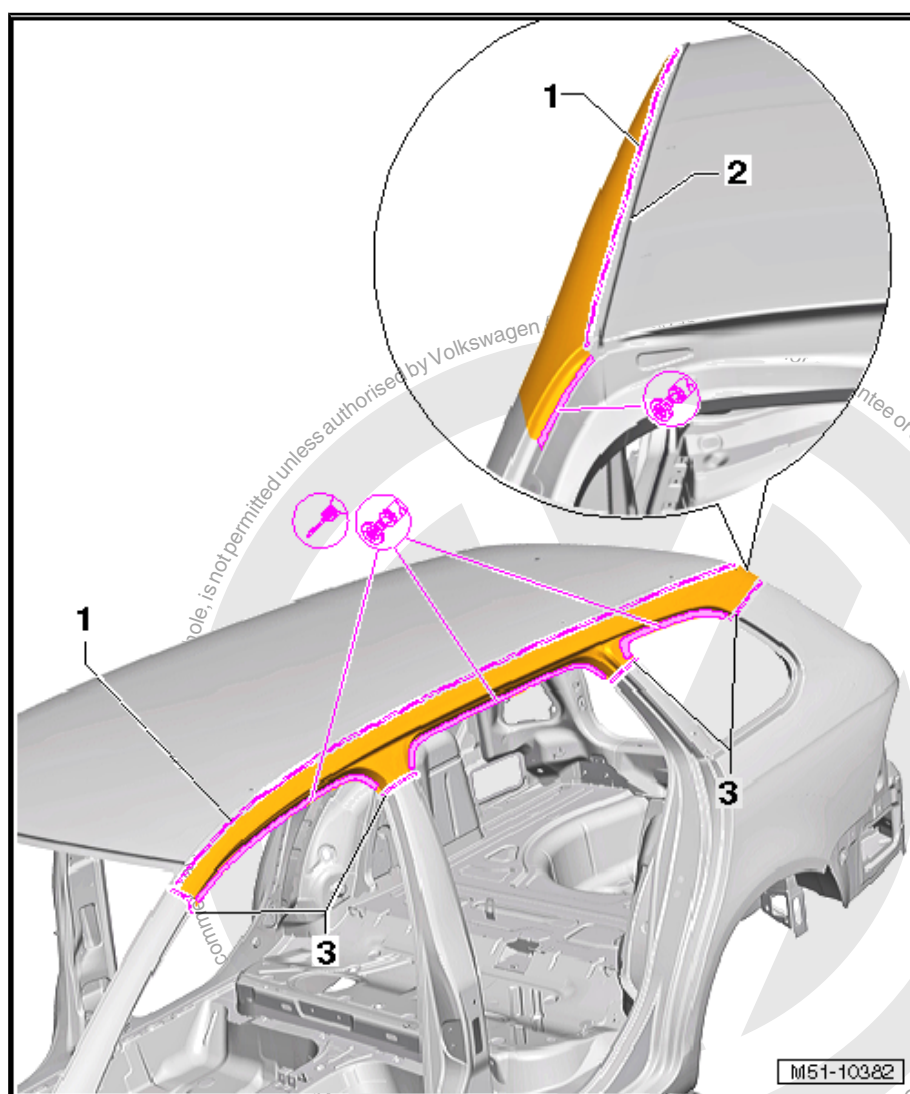
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 2.2 Removing



### Note

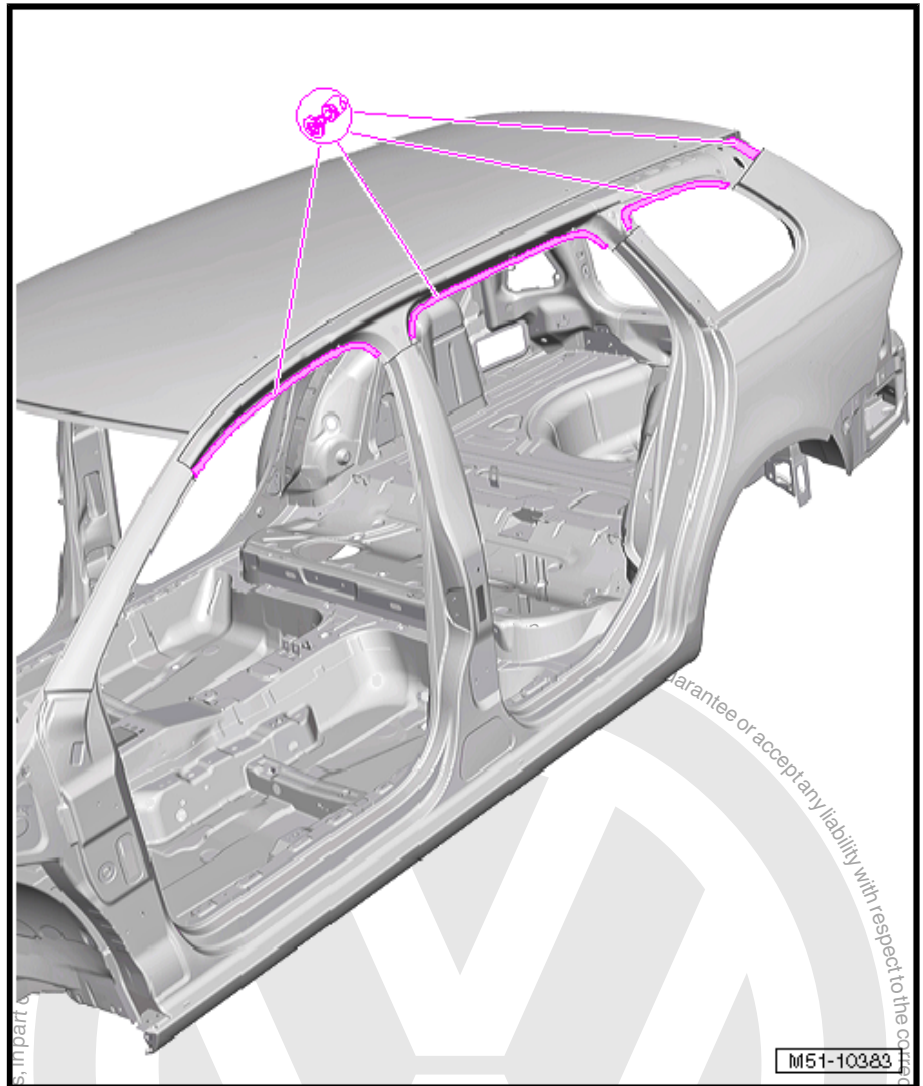
- ◆ Be sure not to damage the metal panels behind it when making the separating cut.
- ◆ If the B-pillar reinforcement is damaged, then it must always be replaced.
- ◆ B-pillar reinforcement must not be re-welded for safety reasons »crash safety«!







- Make a separation cut -1- parallel to the roof approximately 15 mm from the laser brazed seam -2-.
- Make separation cuts -3- on the pillars depending on the damage.
- Cut the original joint in the door cut-outs and in the side window cut-out.



- Remove residual material.

## 2.3 Installing

⇒ [“2.3.1 Preparing New Parts”, page 112](#)

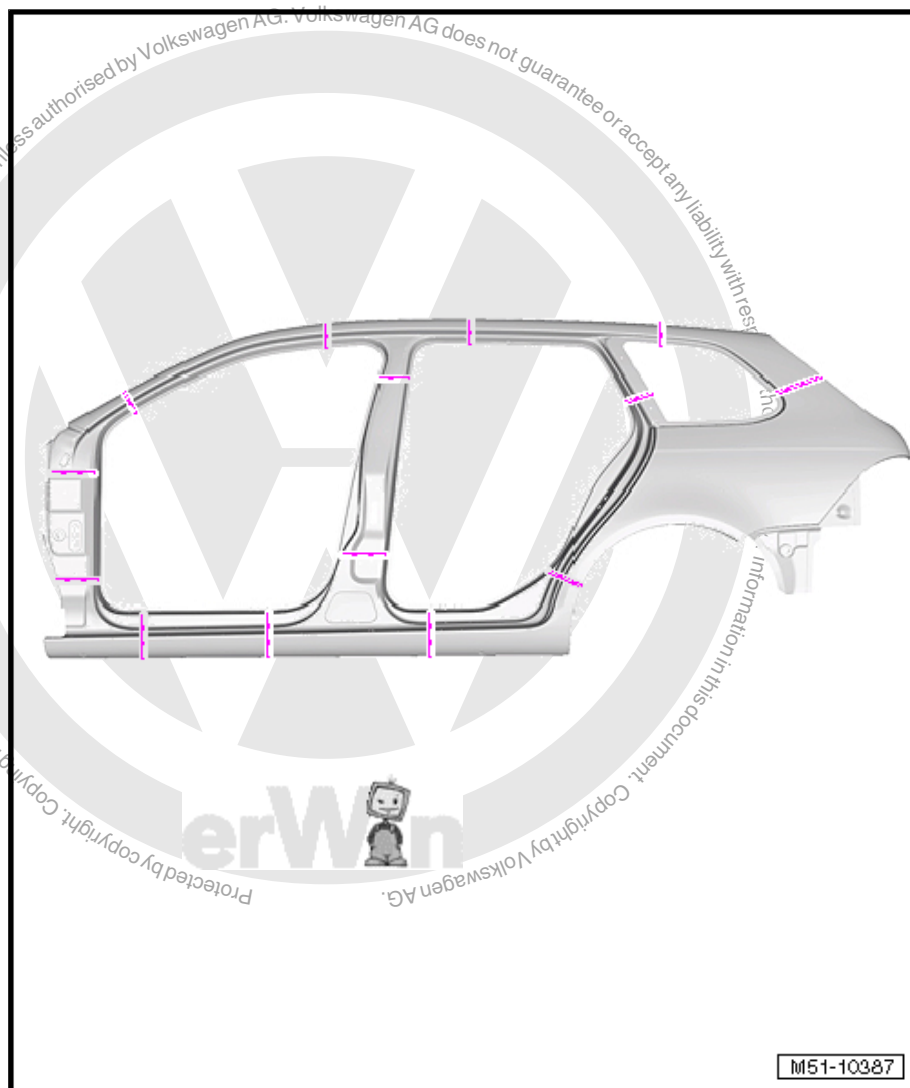
⇒ [“2.3.2 Molded Foam Parts”, page 113](#)

⇒ [“2.3.3 Welding”, page 114](#)



### Note

Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“2.1 Tools”, page 110](#).



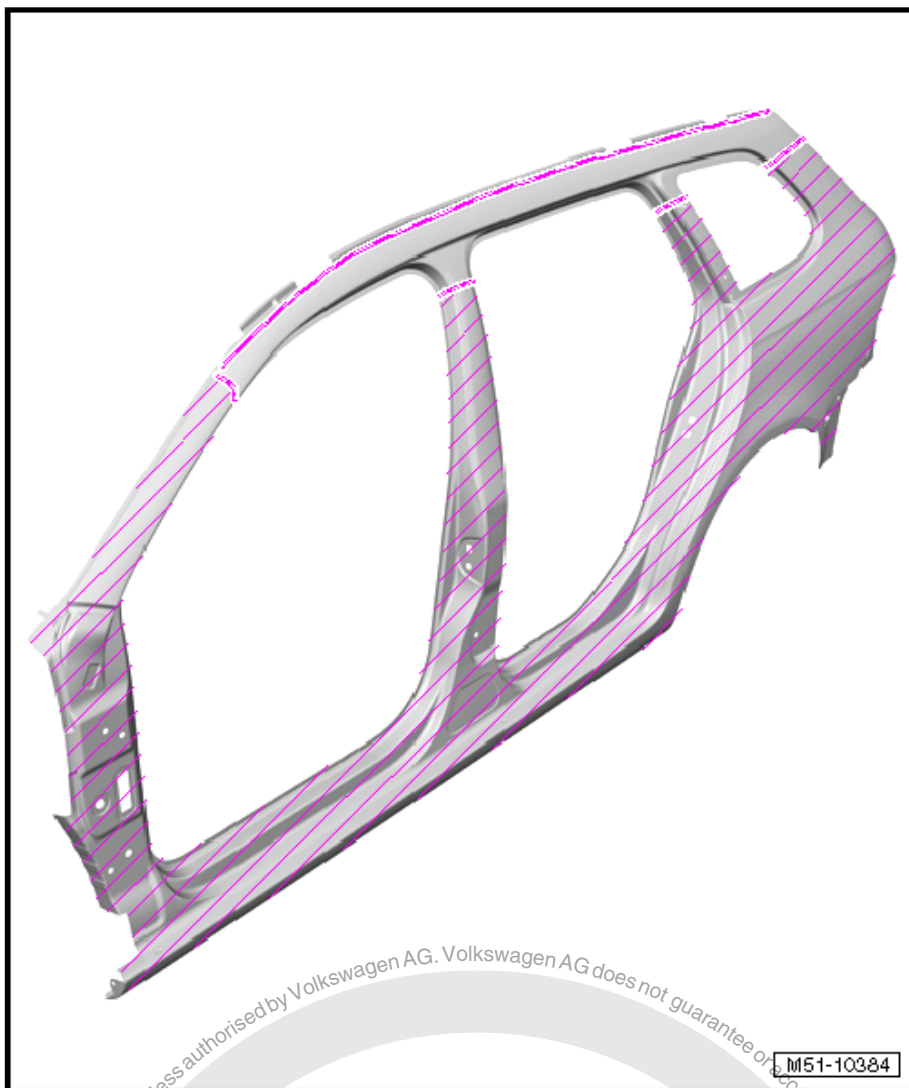
#### Note

*MIG soldered seams/gas-shielded arc continuous weld seam are permitted on the separating cuts shown in the illustration.*

### 2.3.1 Preparing New Parts

#### New Part

- ◆ Side panel or side panel sub-part for partial replacement
- ◆ Molded Foam Part
- ◆ 2K Body Adhesive - D 180 KD3 A2-



- Transfer separating cut onto new part and cut to shape.

### 2.3.2 Molded Foam Parts

**Observe repair notes.**

Molded foam parts, refer to ⇒ General Information; Body Repairs, Body Collision Repair

Position of molded foam parts, refer to  
⇒ ["5 Molded Foam Parts", page 7](#)

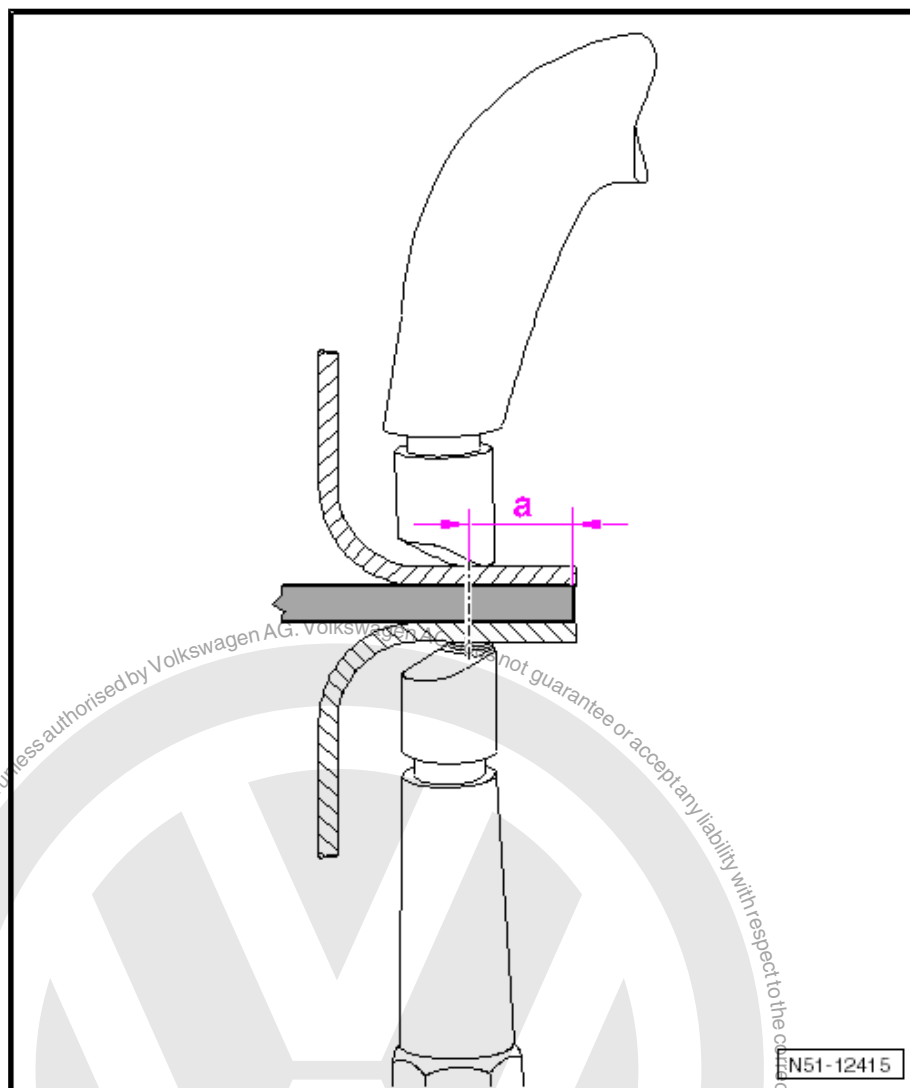


### 2.3.3 Welding



#### Note

- ♦ *High-strength/highest strength hot formed is used on the A-, B- and C-pillars. The welding flanges in these areas are approximately 13 mm wide.*
- ♦ *If the weld points are placed on the edge of the hot-formed steel panels, the high temperatures will change the structure of the steel and this will negatively affect the crash worthiness.*

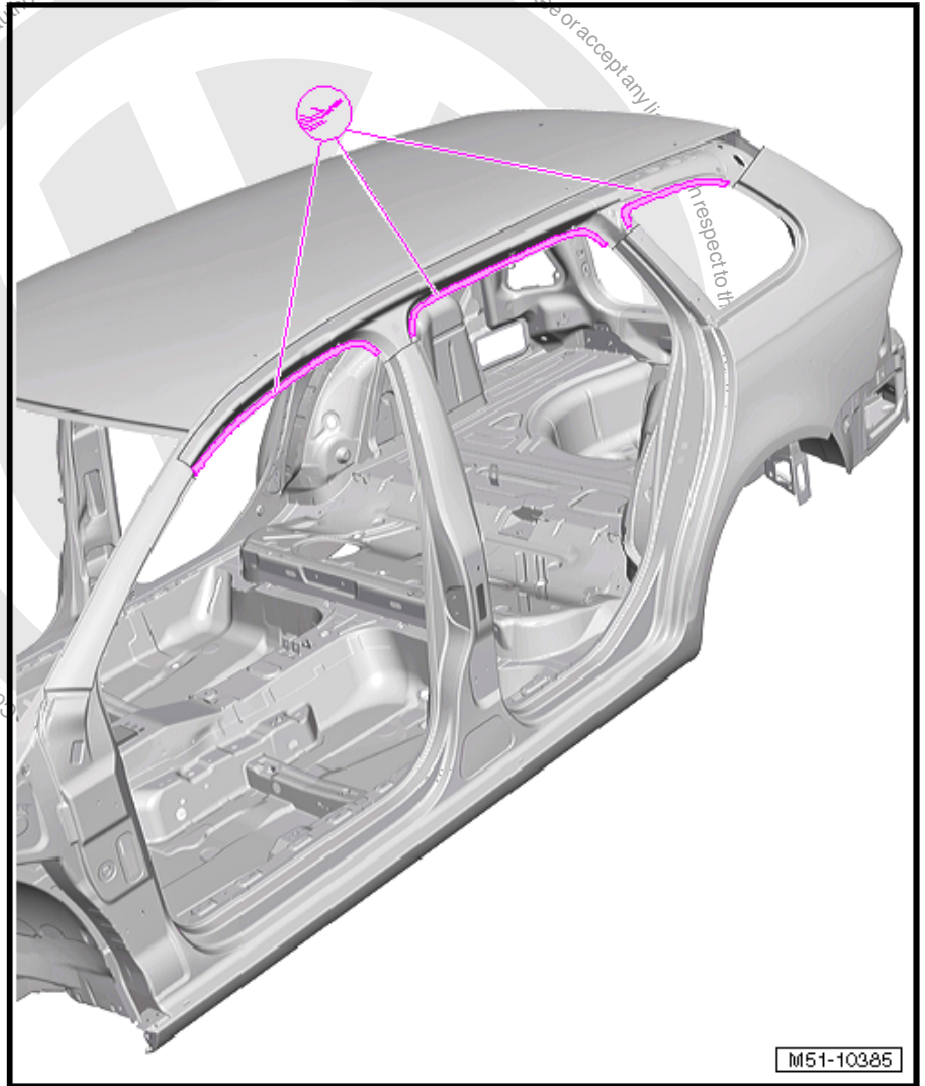


The weld points must be made as far as possible to the inside.

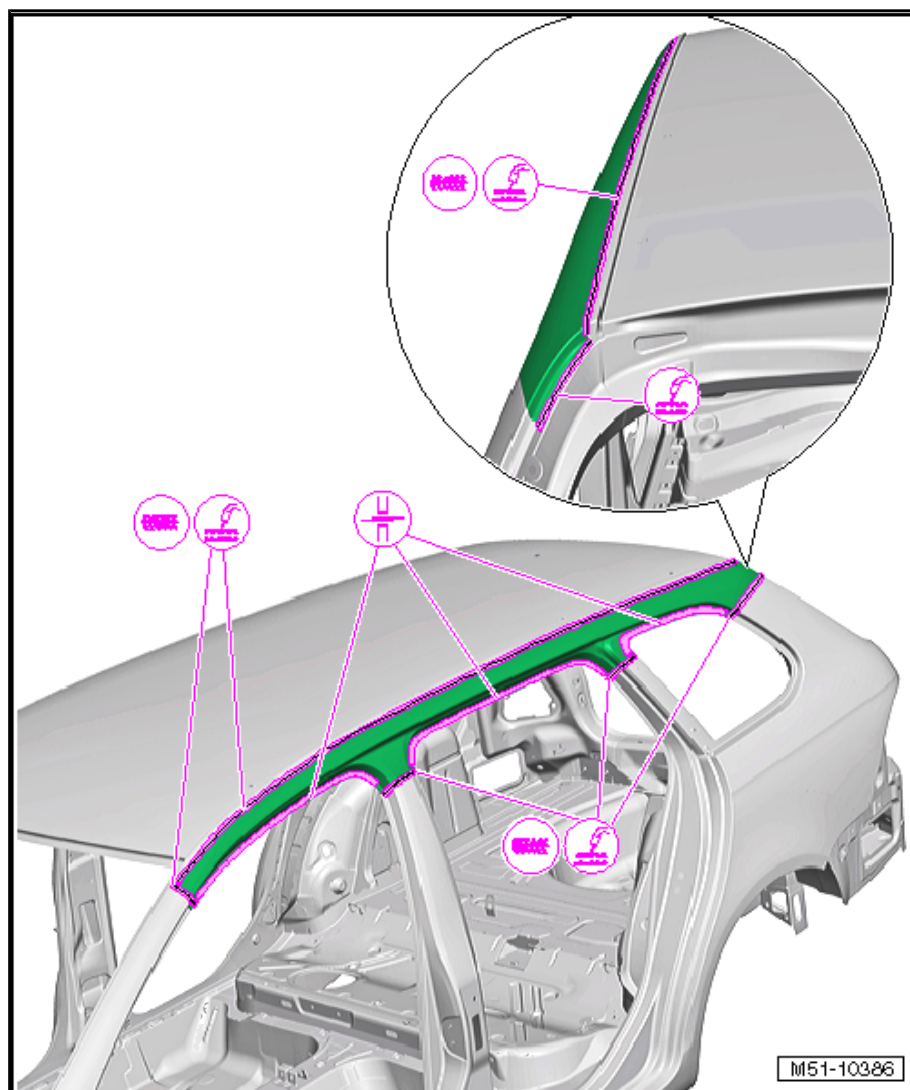


#### Note

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*



- Apply 2K Body Adhesive - D 180 KD3 A2- as illustrated.
- Fit new part to vehicle standing on its wheels or on alignment bracket set and secure.
- Check fit with attachments.



- Weld the separation cuts, either with MIG soldered seam or a gas-shielded arc continuous weld seam.
- Weld the door openings and side window opening with a straight-line spot weld seam inverter.





RO: 51 07 55 50

### 3 Front Roof Crossmember, Replacing

⇒ ["3.1 Tools", page 118](#)

⇒ ["3.2 Removing", page 118](#)

⇒ ["3.3 Installing", page 119](#)



#### WARNING

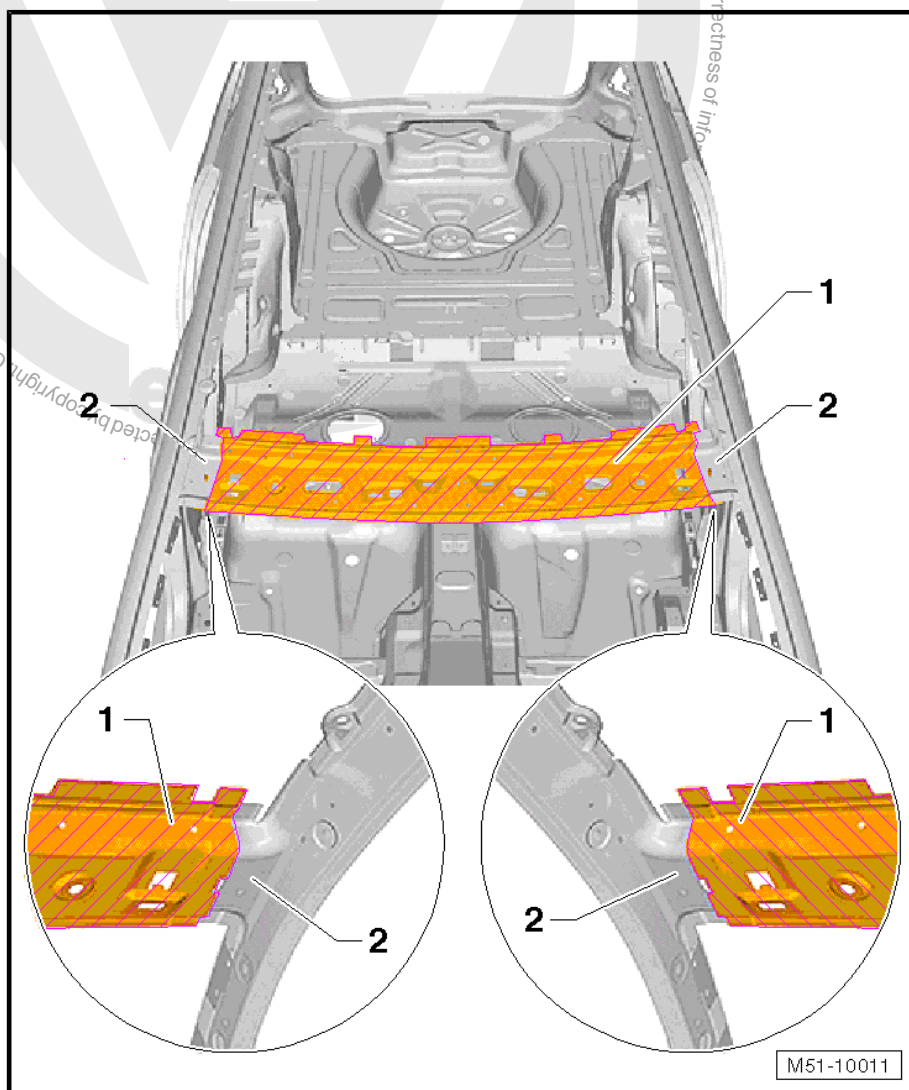
*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Roof already removed, refer to  
⇒ ["1 Roof, Replacing", page 90](#).

1 - Front Roof Cross Member

2 - Left and Right Roof Pillar





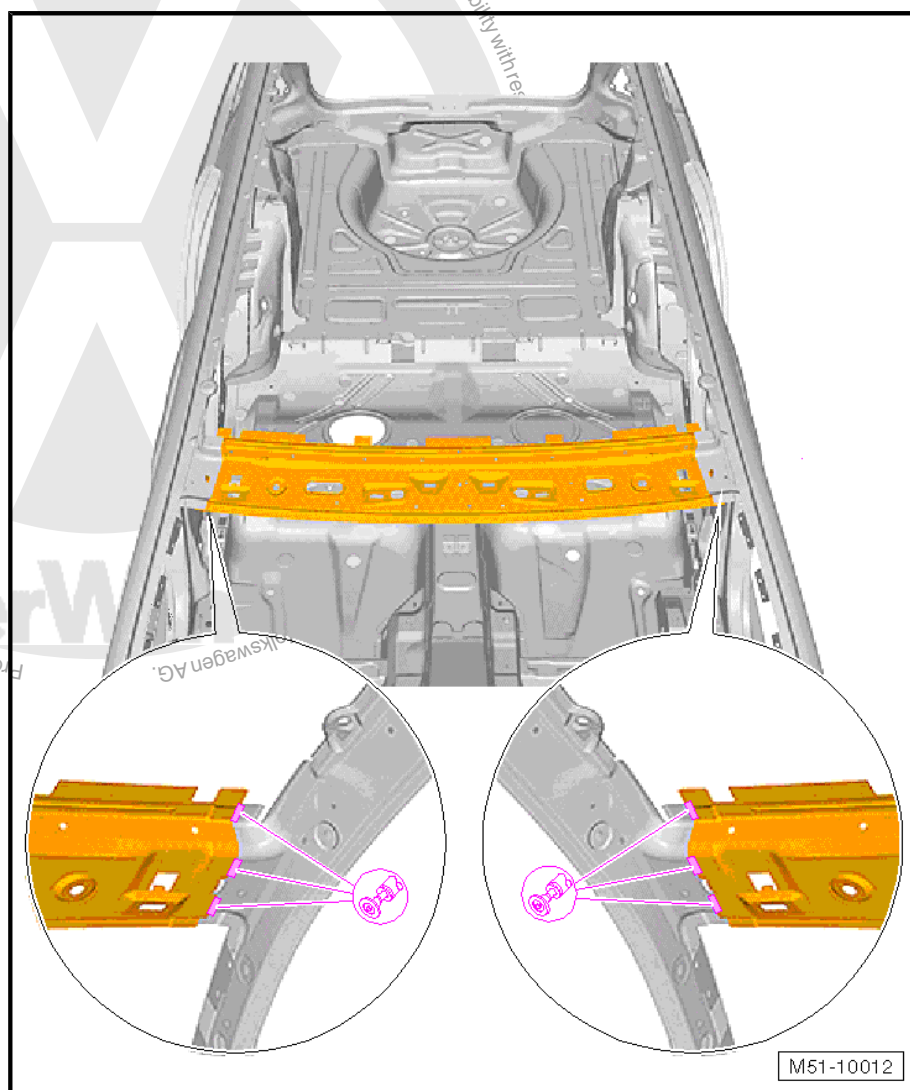
## 3.1 Tools



### Note

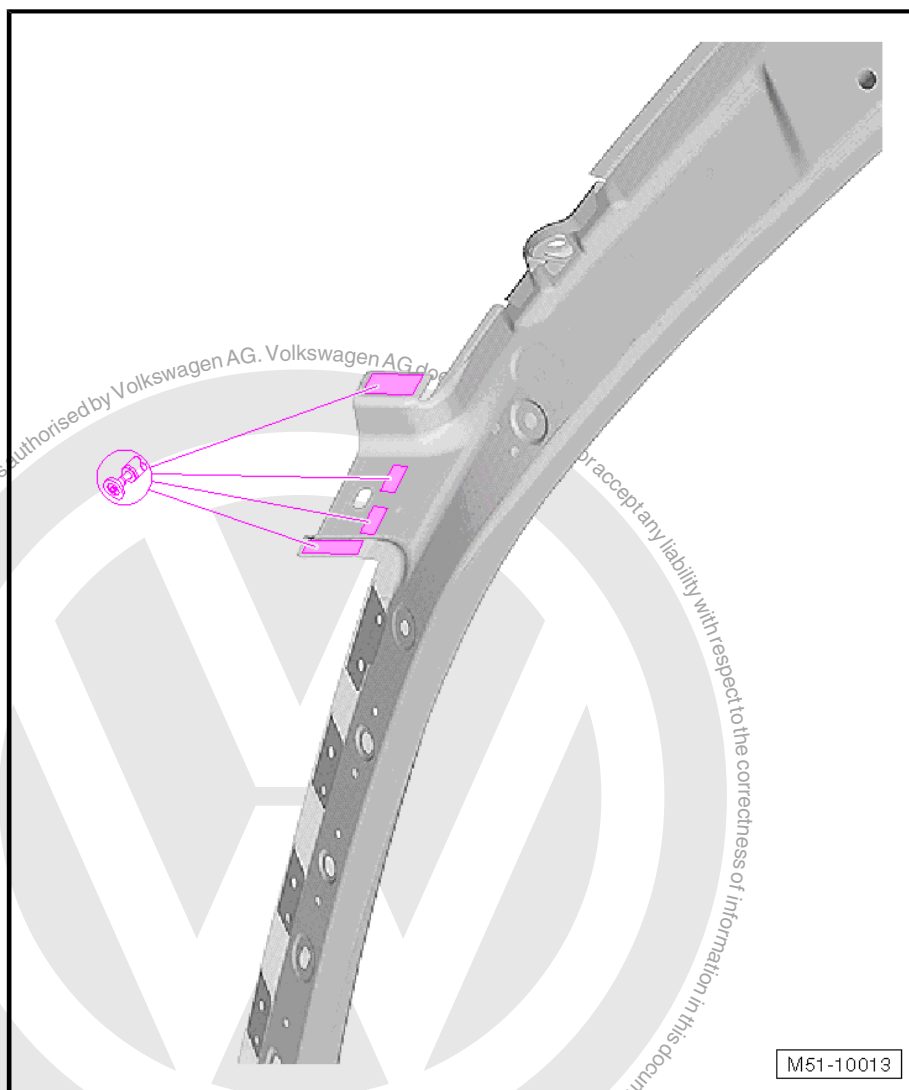
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 3.2 Removing



- Separate original joint.





- Remove remaining pieces on transition to roof pillar on left and right sides.

### 3.3 Installing

⇒ ["3.3.1 Welding", page 119](#)



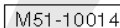
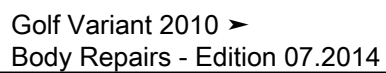
#### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["8.1 Tools", page 153](#).*

#### 3.3.1 Welding

##### Replacement Part

- ◆ Front roof cross member
- Fit new part and secure it.
- Check the body dimensions and fit with the roof and the windshield, refer to ⇒ ["8.2 Body, Center", page 18](#).



- Install the roof, refer to ⇒ [“1.3 Installing”, page 96](#)



RO: 51 08 55 50

## 4 Roof Reinforcement, Replacing, Vehicles without Panorama Sunroof

⇒ ["4.1 Tools", page 122](#)

⇒ ["4.2 Removing", page 122](#)

⇒ ["4.3 Installing", page 123](#)



### WARNING

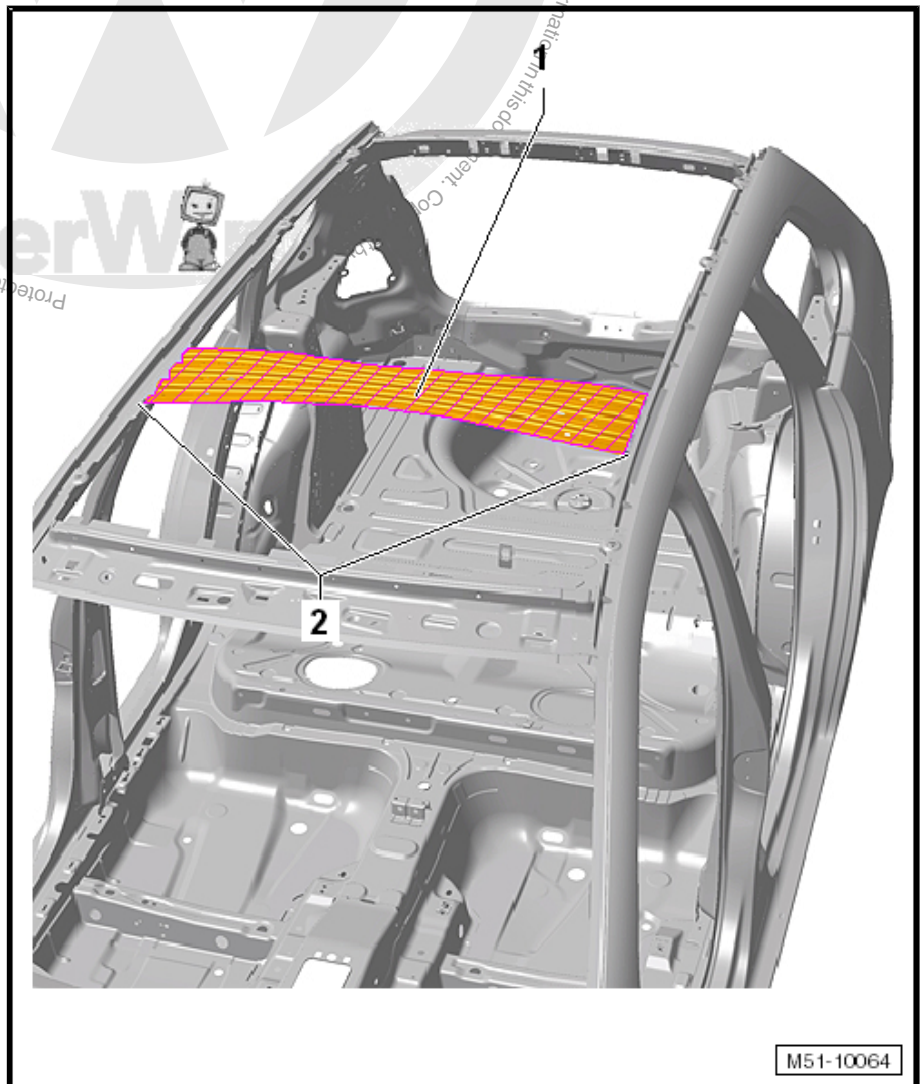
*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Roof already removed, refer to ["1 Roof, Replacing", page 90](#).

1 - Roof reinforcement

2 - Left and right roof pillar





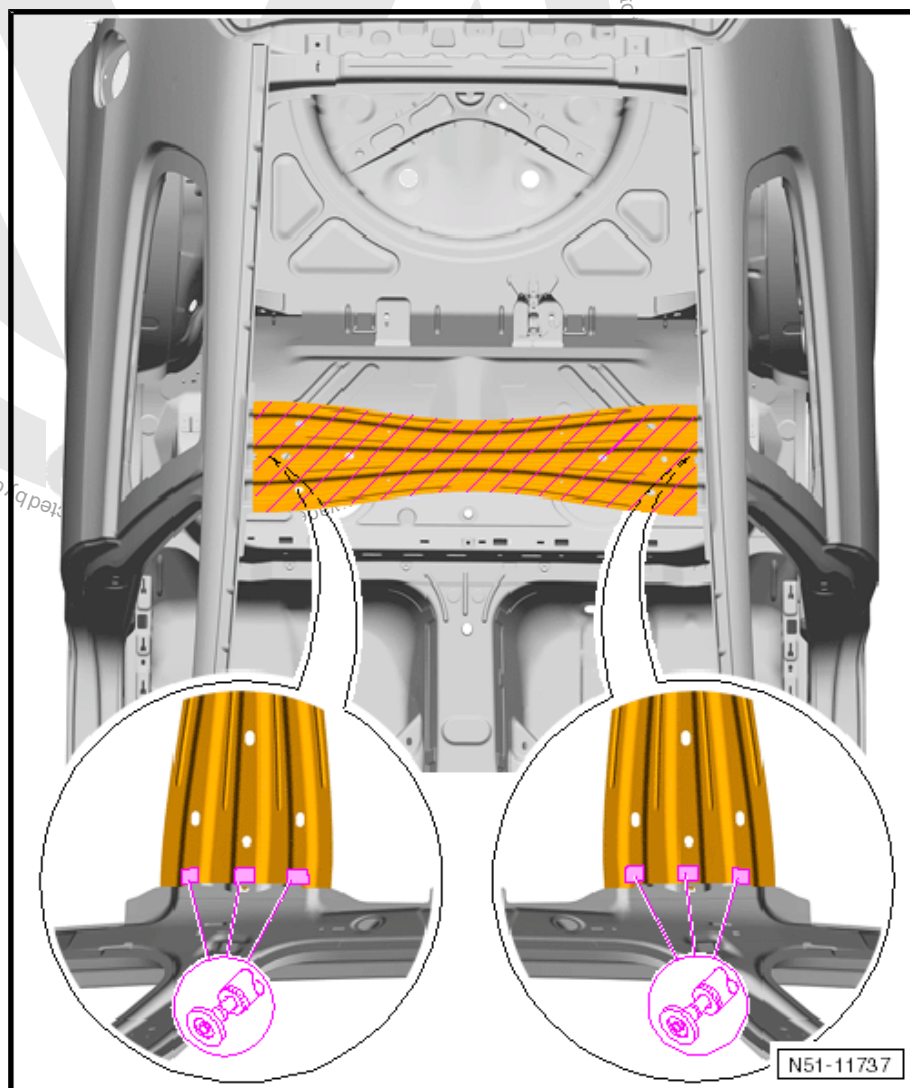
## 4.1 Tools



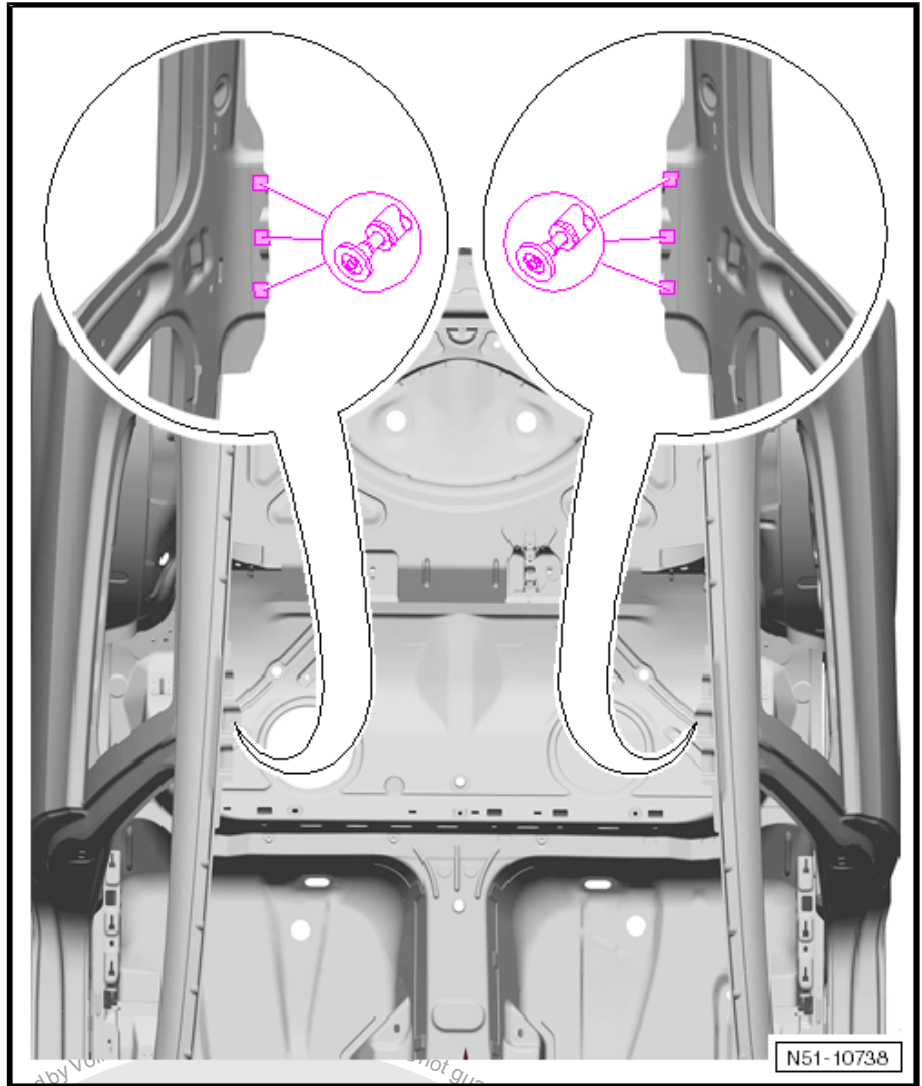
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 4.2 Removing



- Separate the original joint.



- Remove remaining material on crossover to left and right roof pillars.

## 4.3 Installing

⇒ [“4.3.1 Welding”](#), page 123



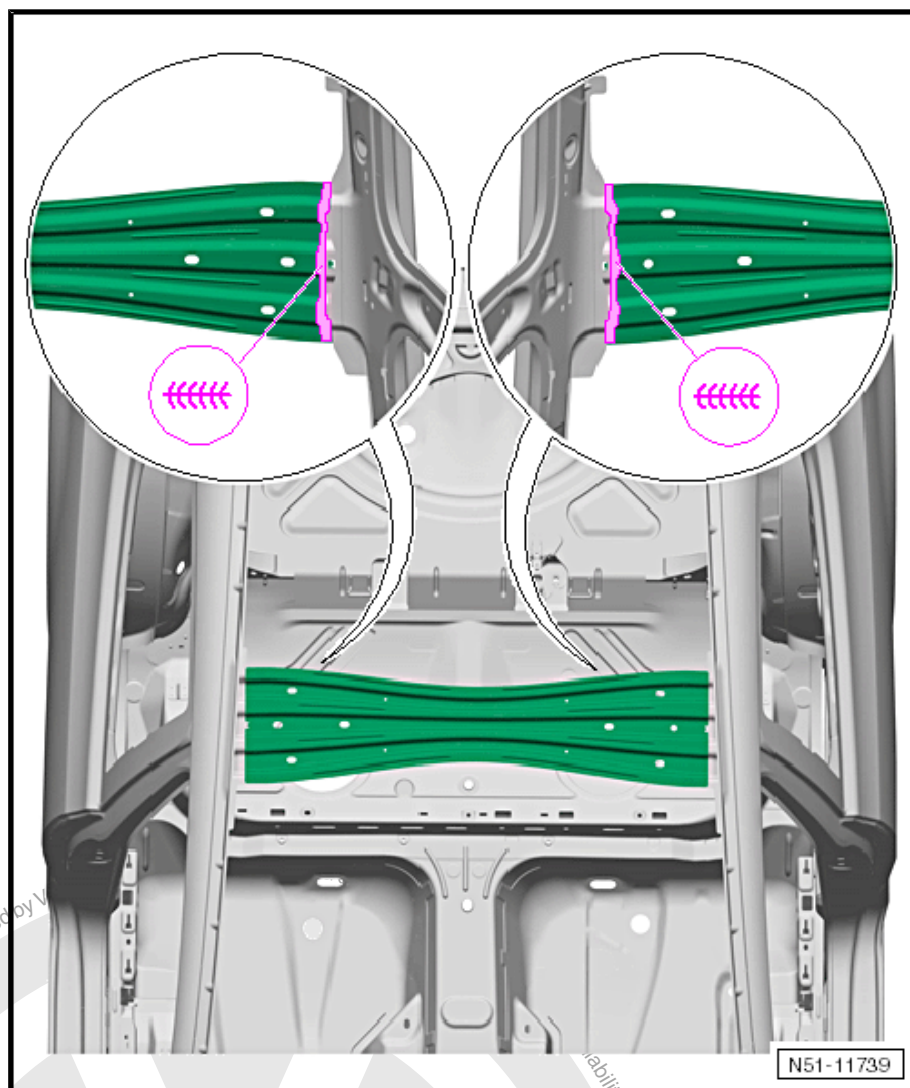
### Note

Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“8.1 Tools”](#), page 153.

## 4.3.1 Welding

### Replacement Part

- ◆ Roof reinforcement
- Align the new part and secure it in place.
- Check fit with roof.



- Weld the roof reinforcement with a gas-shielded arc continuous weld seam.
- Roof, vehicles without sunroof, installing, refer to [⇒ “1.3 Installing”, page 96](#).





RO: 51 09 55 50

## 5 Rear Roof Crossmember, Replacing

⇒ ["5.1 Tools", page 126](#)

⇒ ["5.2 Removing", page 126](#)

⇒ ["5.3 Installing", page 127](#)



### WARNING

*Follow all safety precautions.*

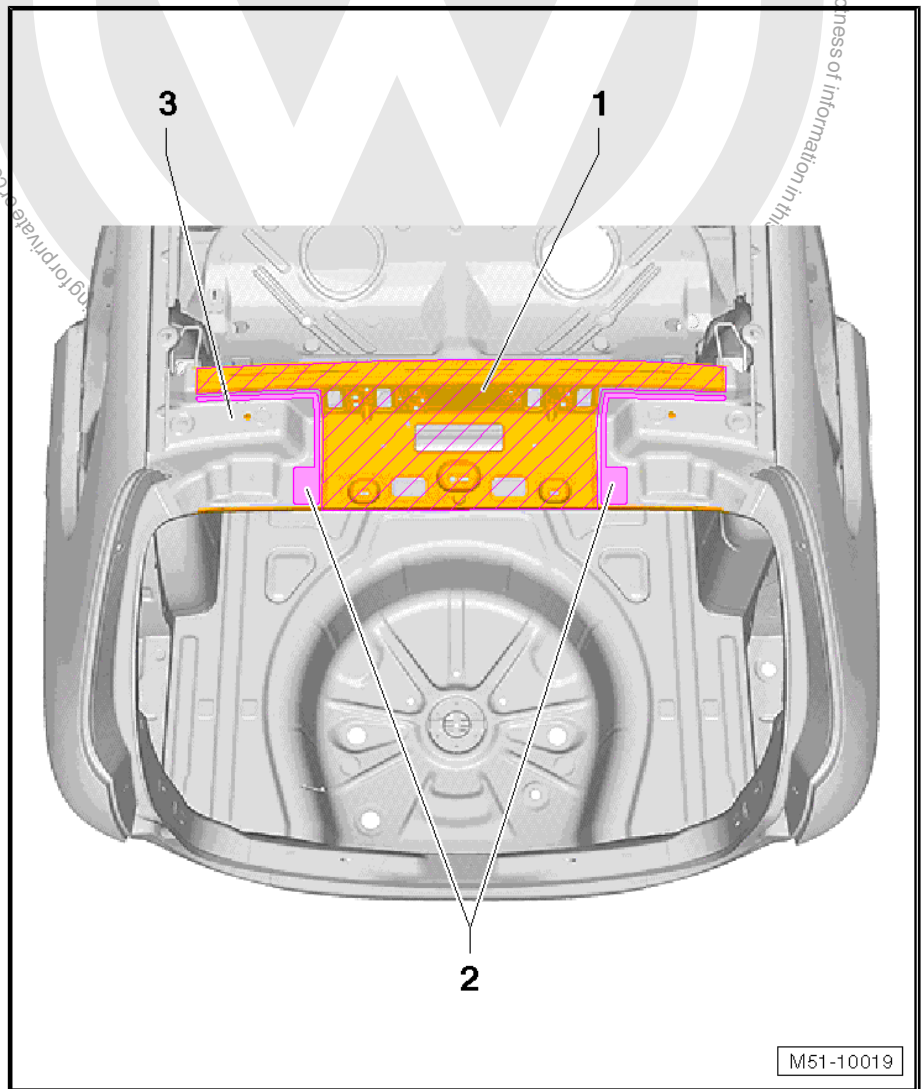
Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Roof already removed, refer to  
⇒ ["1 Roof, Replacing", page 90](#).

1 - Rear Roof Cross Member

2 - Glued Area

3 - Rear Inner Side Panel





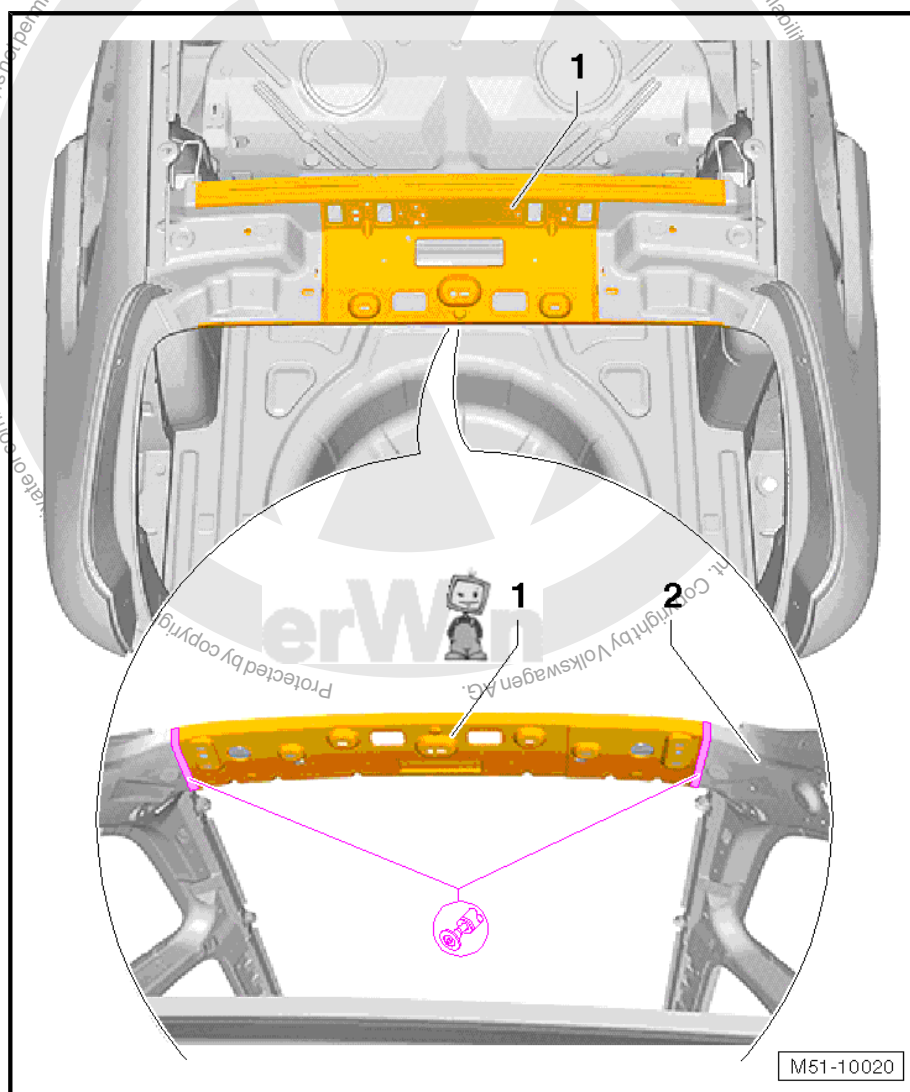
## 5.1 Tools



### Note

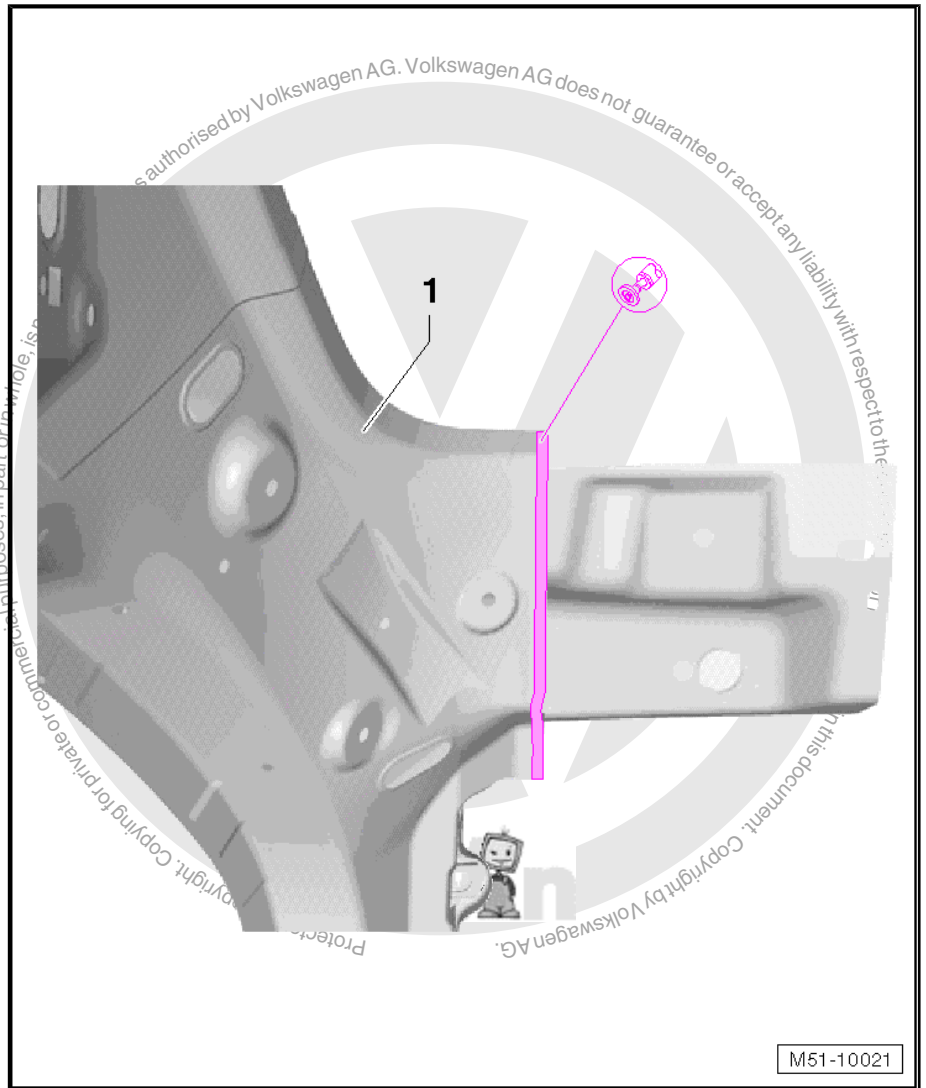
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 5.2 Removing



- Separate the original joint between the rear roof crossmember -1- and the rear inner side panel -2-.





- Remove the remaining pieces at the left and right on the transition points to the rear inner side panel -1-.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

## 5.3 Installing

⇒ [“5.3.1 Welding”, page 127](#)



### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“8.1 Tools”, page 153](#).*

### 5.3.1 Welding

#### Replacement Part

- ◆ Rear roof cross member

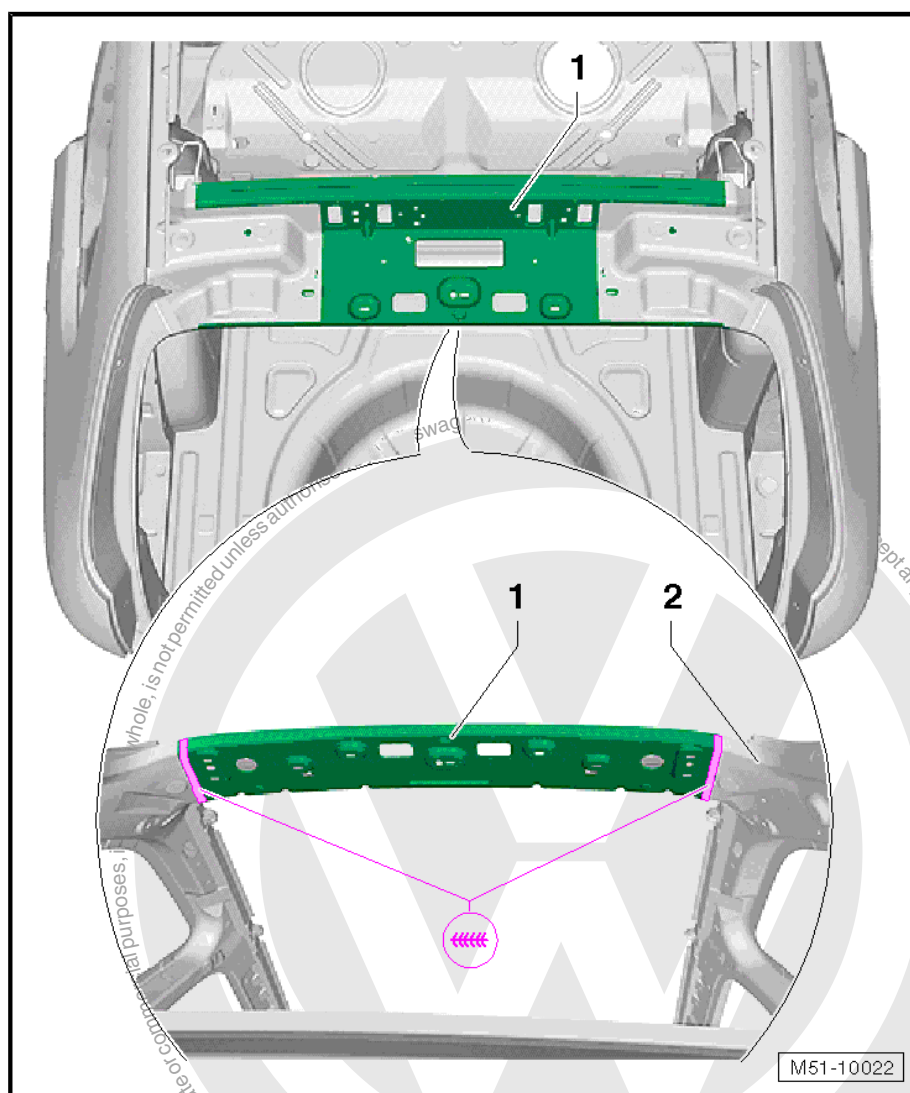


◆ 2K Body Adhesive - D 180 003 M2-



Note

- ◆ *New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*
- ◆ *The holes for the hinge mount must be cleaned after applying the adhesive.*
- Check the body dimensions and fit with the roof and the rear lid, refer to ⇒ [“8.3 Body, Rear”, page 24](#) .
- Abrade the new roof crossmember with 360 grit sand paper near the area where the adhesive was put on at the factory.
- Apply the 2K Body Adhesive - D 180 003 M2- to the rear roof crossmember in the area where it was bonded during production.
- Install rear roof crossmember with vehicle standing on its wheels or on the alignment bracket set and affix it in place.



- Weld the rear roof crossmember -1- to the rear inner side panel -2- with a gas-shielded arc continuous weld seam.

Install the roof, refer to ⇒ [“1.3 Installing”, page 96](#)



RO: 51 37 55 00

## 6 A-Pillar, Replacing



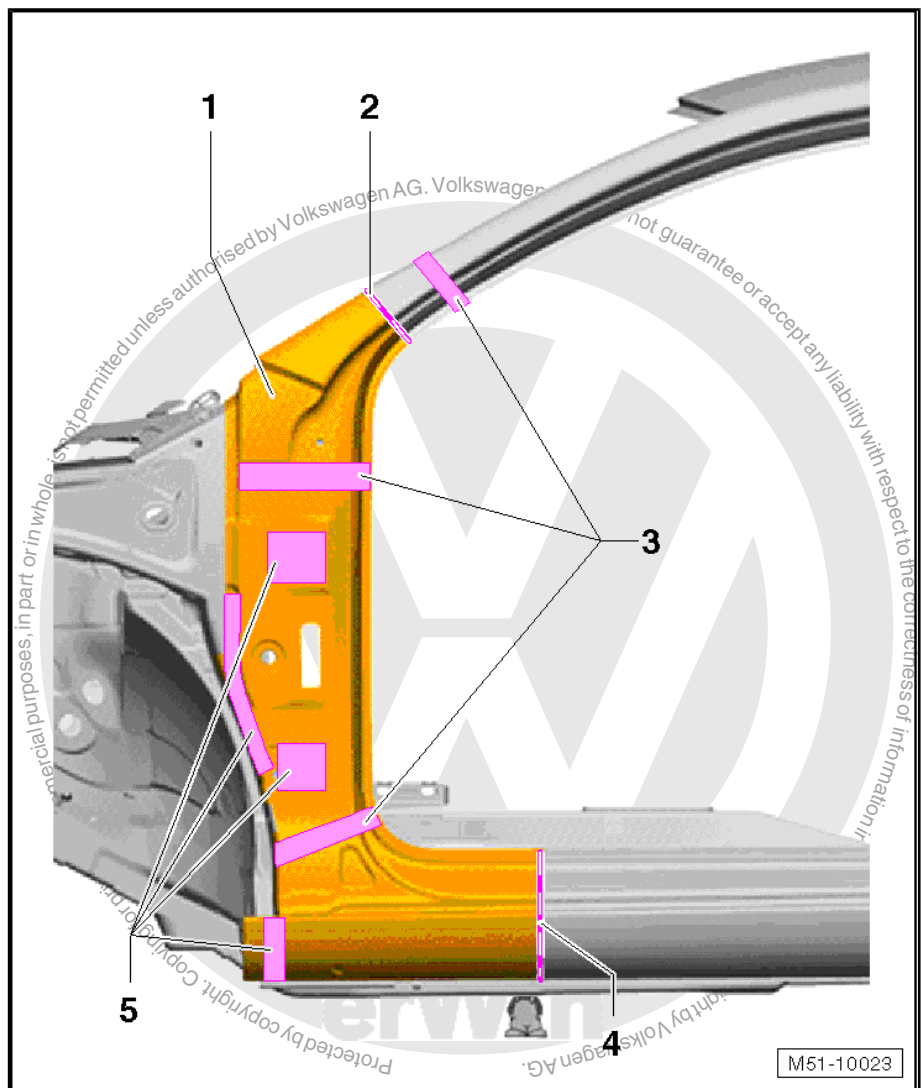
### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair ; Safety Precautions

- 1 - A-pillar
  - 2 - Upper separation cut
  - 3 - Molded Foam Part
  - 4 - Separating cut for sill panel
- Make according to the damage. If the A-pillar reinforcement is also going to be replaced, then the cut should be at least 430 mm from the front edge of the A-pillar.
- 5 -
  - 6 - Bonded area





## 6.1 Tools



### Note

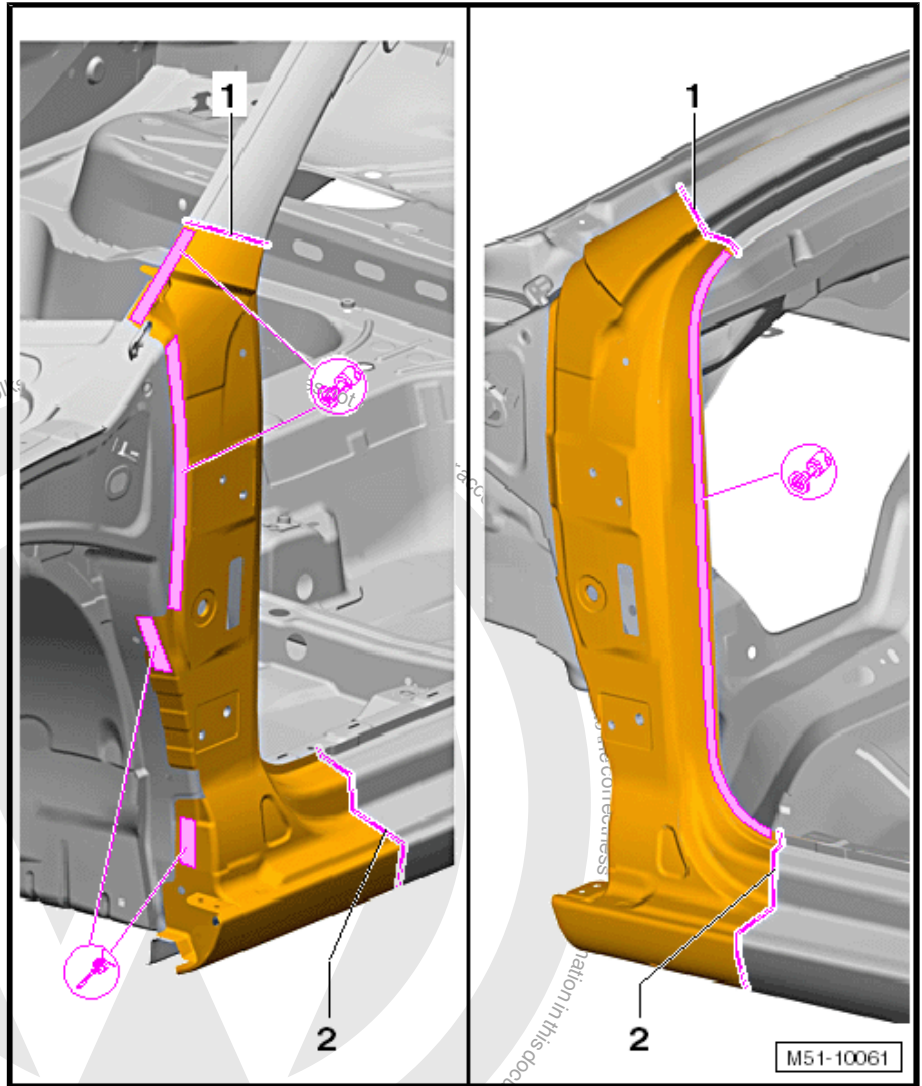
- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to ⇒ ServiceNet, Workshop Equipment, V.A.G Workshop Equipment Catalog, Body/Paint .*

## 6.2 Removing



### Note

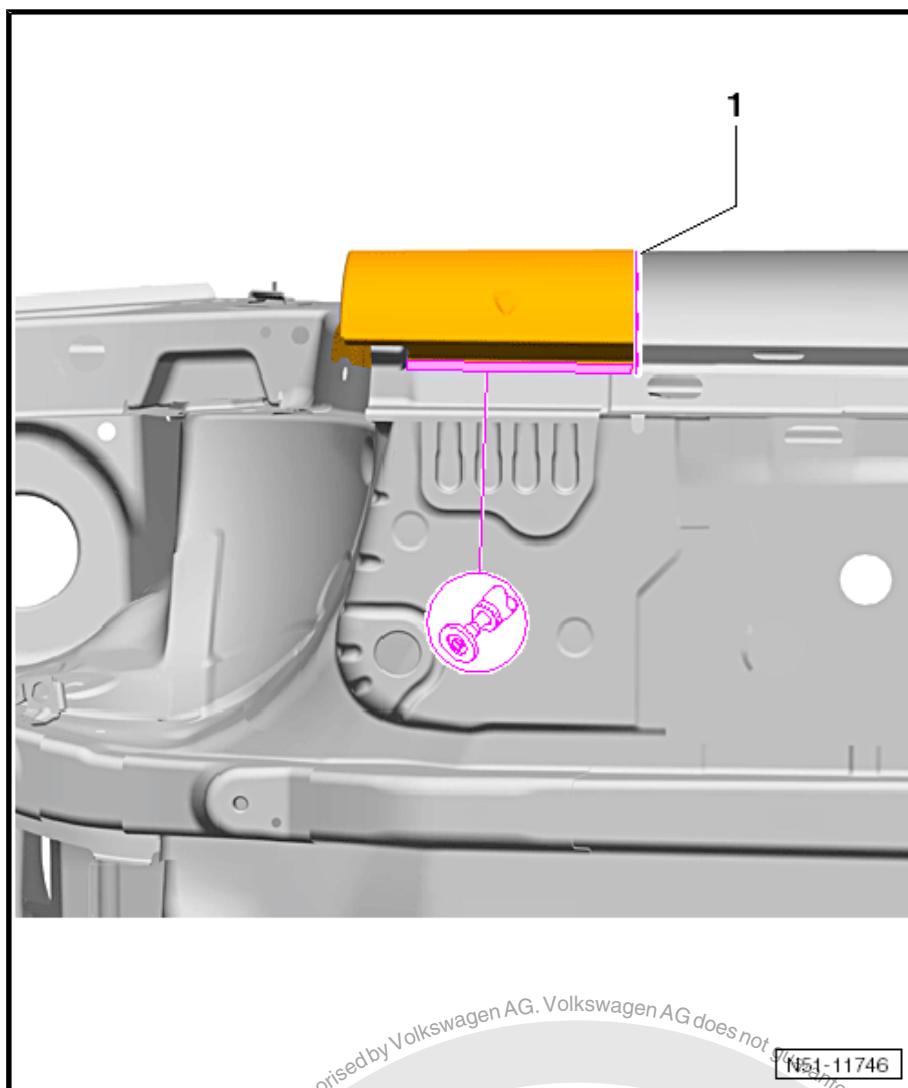
- ◆ *Only use the body Pneumatic Body Saw - VAS6780- to perform separating cuts.*
- ◆ *Be sure not to damage the metal panels behind it when making the separating cut.*
- ◆ *If the A-pillar reinforcement is damaged, then it must always be replaced.*
- ◆ *A-pillar reinforcement must not be re-welding for safety reasons »crash safety«!*
- ◆ *Foam residue must be removed as much as possible before sanding work.*



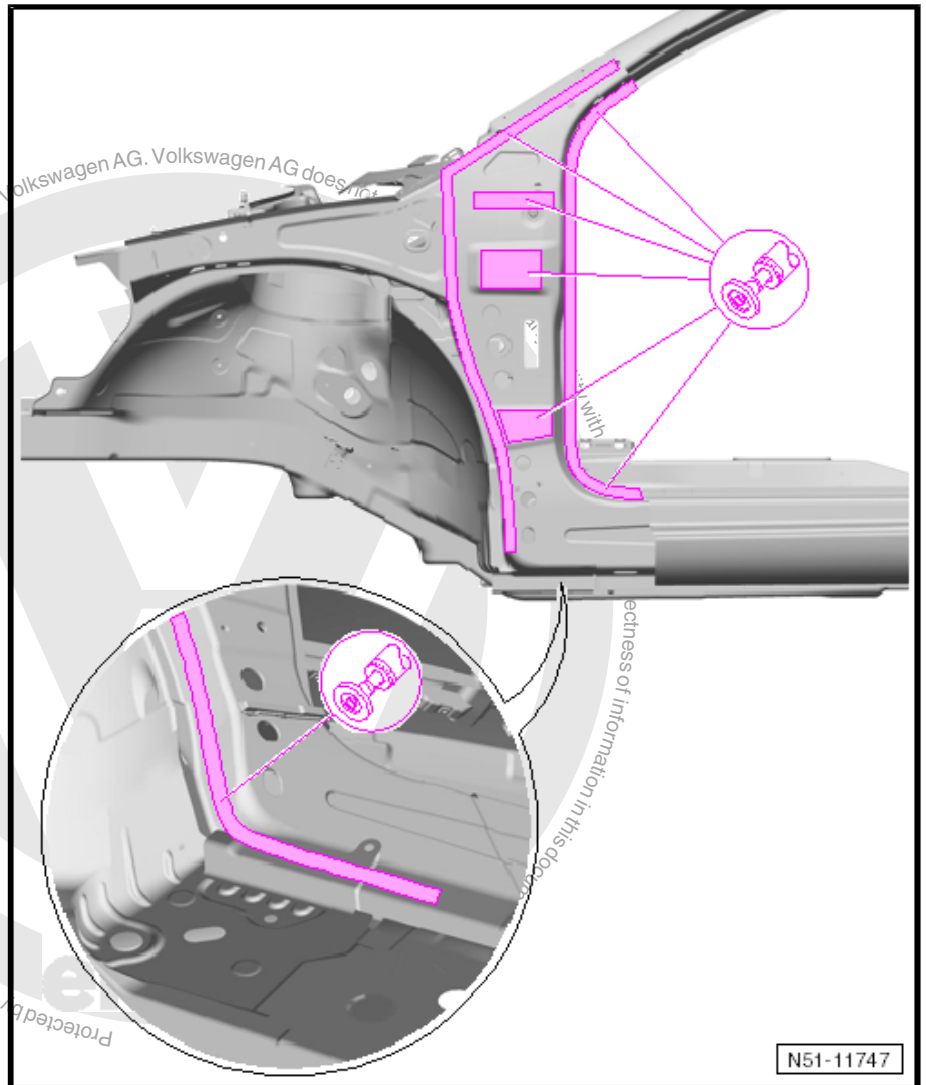
#### Note

*If the A-pillar reinforcement is being replaced, then the separation cut -2- must be made at least 290 mm from the front edge of the A-pillar.*

- Make a separating cut -1- according to the damage.
- Make a separating cut -2- according to the damage.
- Separate the original joint.



- Continue making the separation cut -1- on the bottom of the sill panel.
- Open the joint on the sill panel reinforcement.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to ⇒ Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials .
- Lightly sand the adhesive surfaces in the connection.

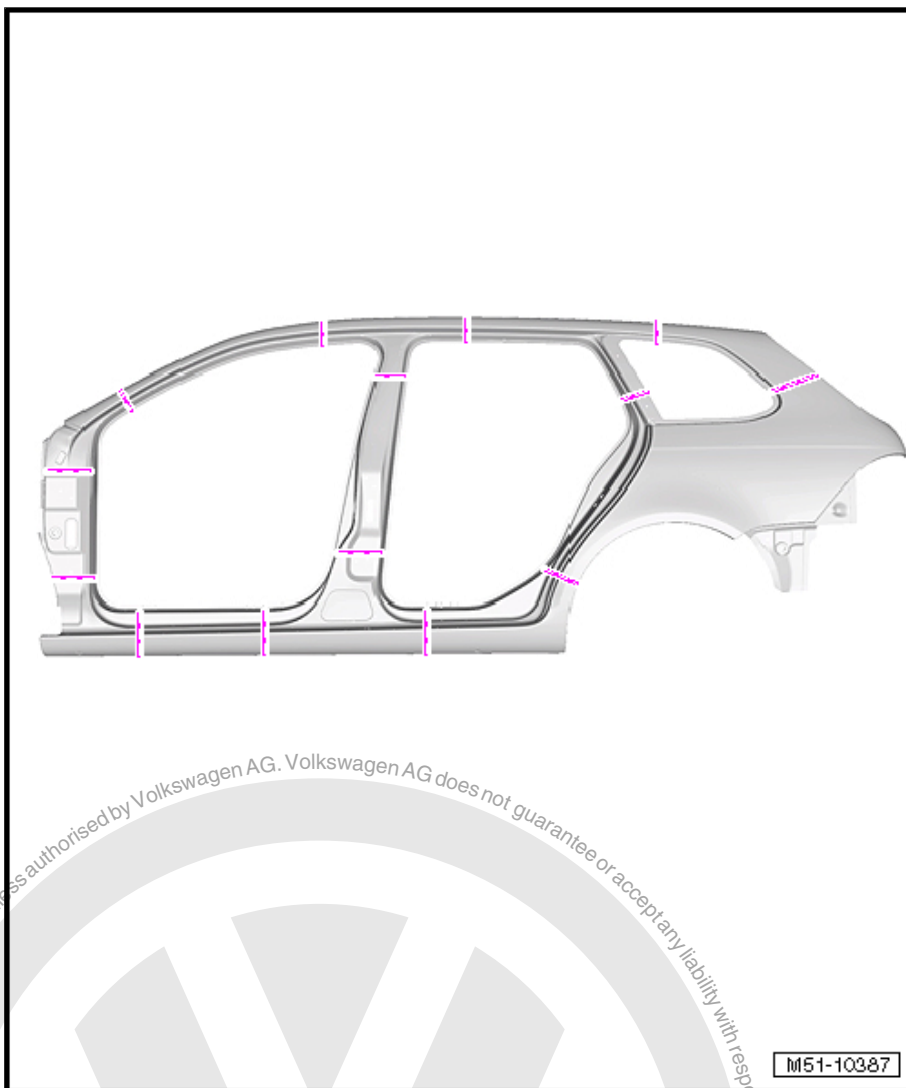
### 6.3 Installing



#### Note

Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["8.1 Tools", page 153](#) .





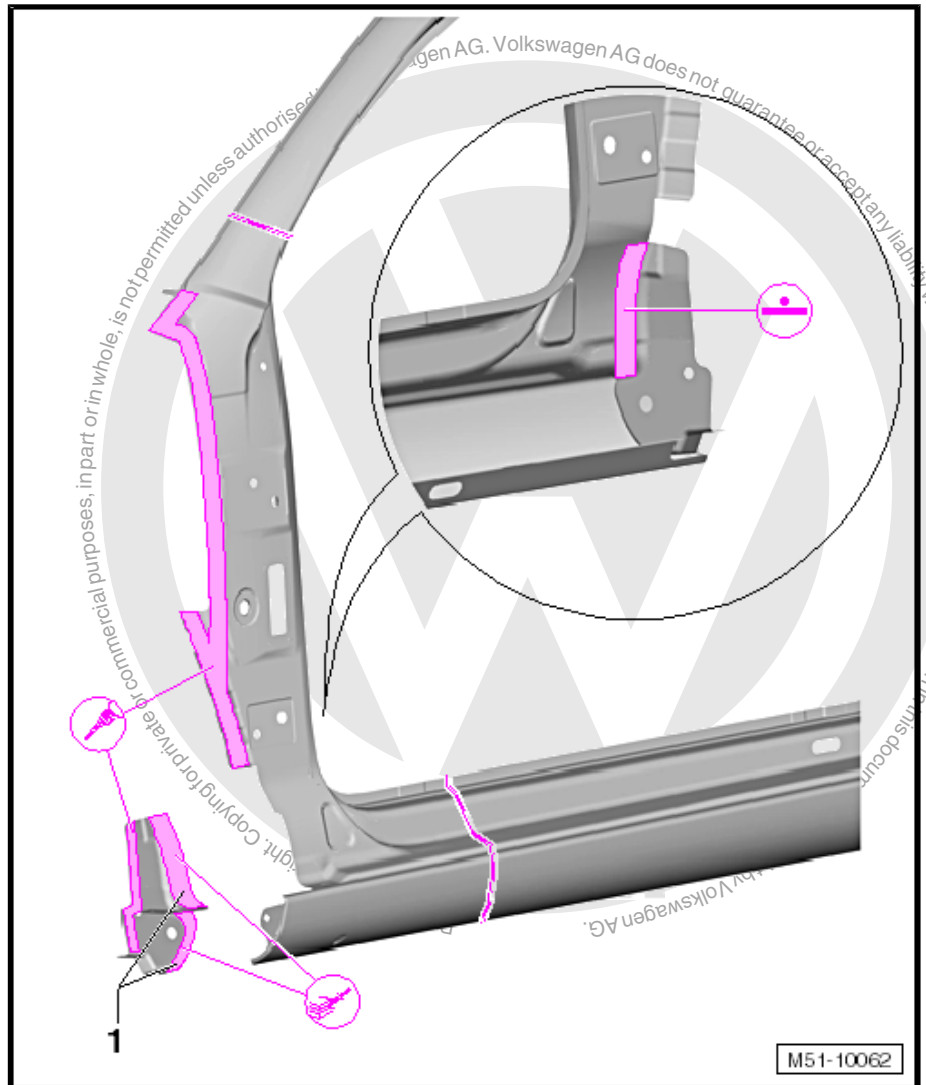
#### Note

*MIG soldered seams, gas-shielded arc continuous weld seam are permitted on the separating cuts shown in the illustration.*

### 6.3.1 Preparing New Parts

#### Replacement Part

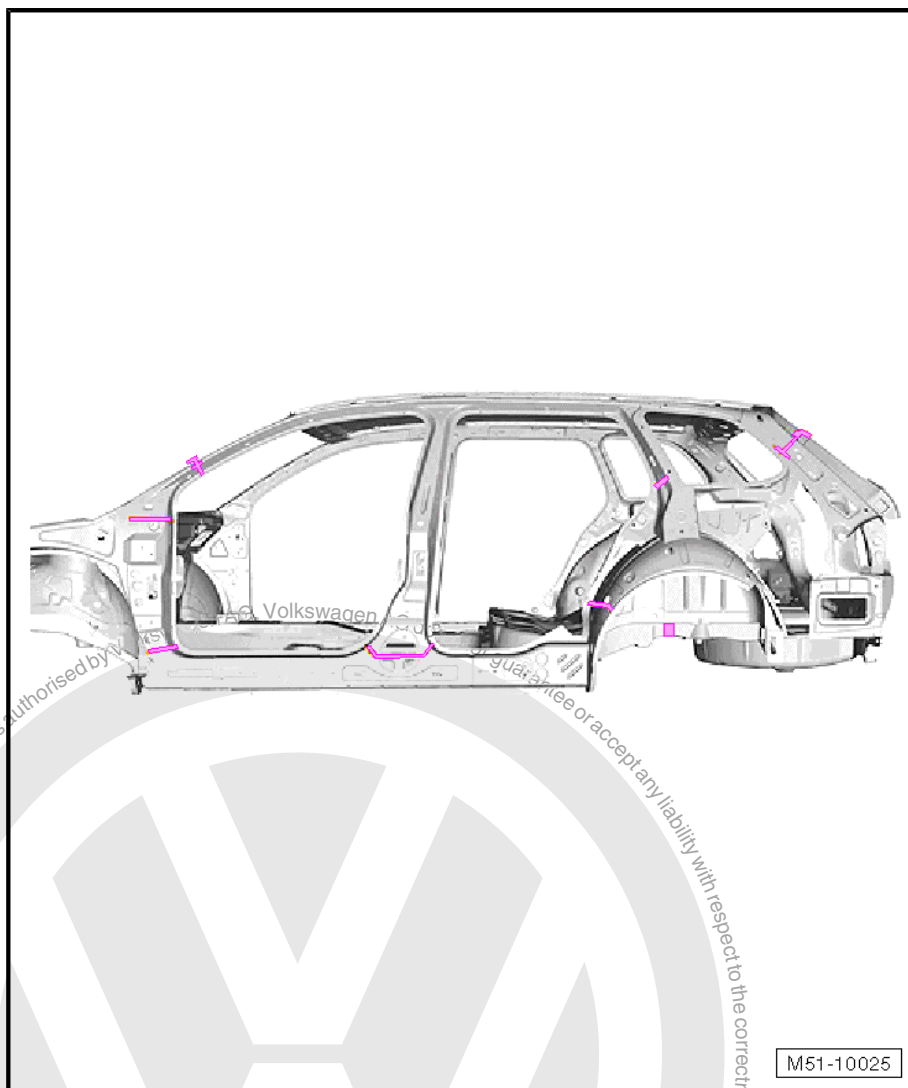
- ◆ Sub-part, front side panel (Replacement Part identification: sub-part A-pillar with sill panel)
- ◆ Sill panel strip end plate
- ◆ 2K Body Adhesive - D 180 003 M2
- ◆ Butyl Adhesive Sealing Cord - AKD 497 010 04 R10-
- ◆ Molded Foam Part



- Transfer separating cuts onto new part and cut to shape.
- Drill a 7 mm hole diameter in the new part for the transition to the upper longitudinal member and to the front wheel housing.
- Drill a 7 mm diameter hole in the sill panel end panel on the transition to the front wheel housing.
- Apply 2K Body Adhesive - D 180 003 M2- to the sill panel end plate near the A-pillar -1-. The adhesive bead should be approximately 4 mm.
- Secure the sill panel end plate to the A-pillar.
- Weld the sill panel end plate to the A-pill with a straight-line spot weld seam.



## 6.3.2 Molded Foam Parts



### Observe repair notes.

Molded foam parts, refer to ⇒ General Information; Body Repairs,  
Body Collision Repair; General Information, Molded Foam Parts

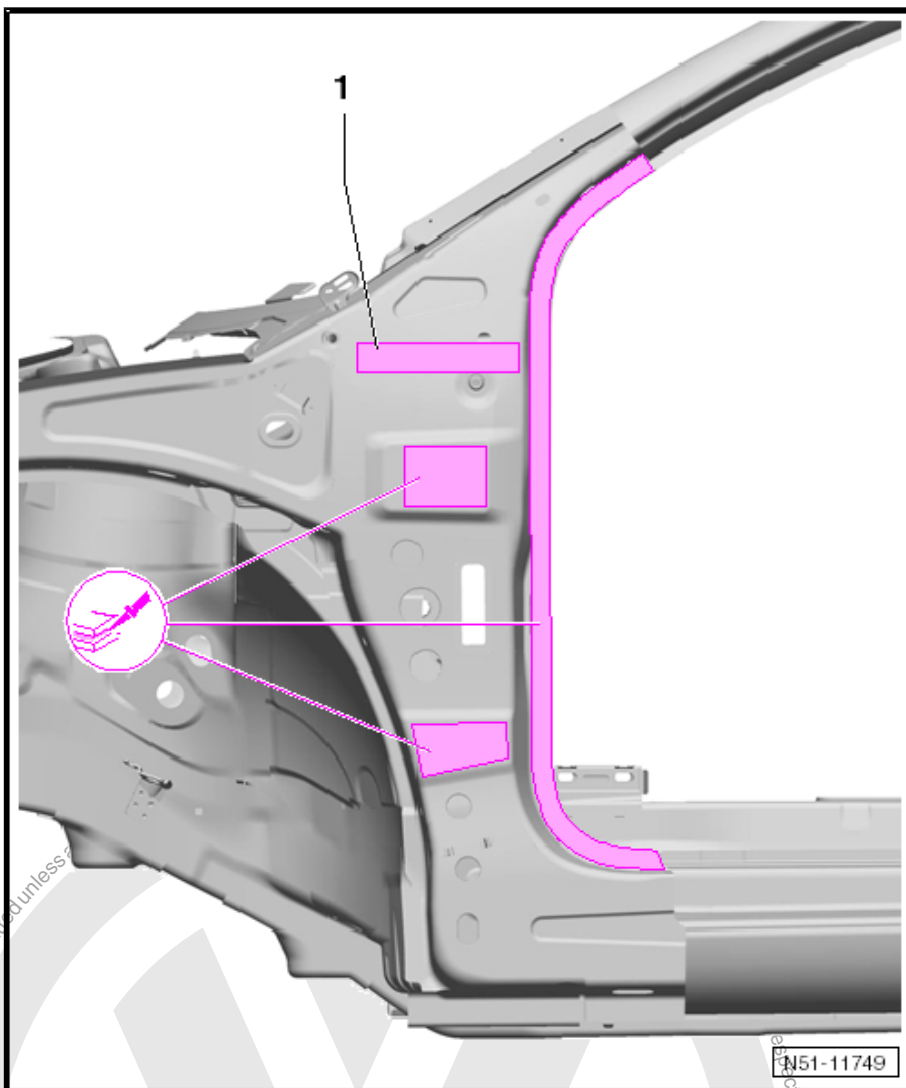


### 6.3.3 Welding



#### Note

- ◆ *New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*
- ◆ *The holes for the hinge mount must be cleaned after applying the adhesive.*

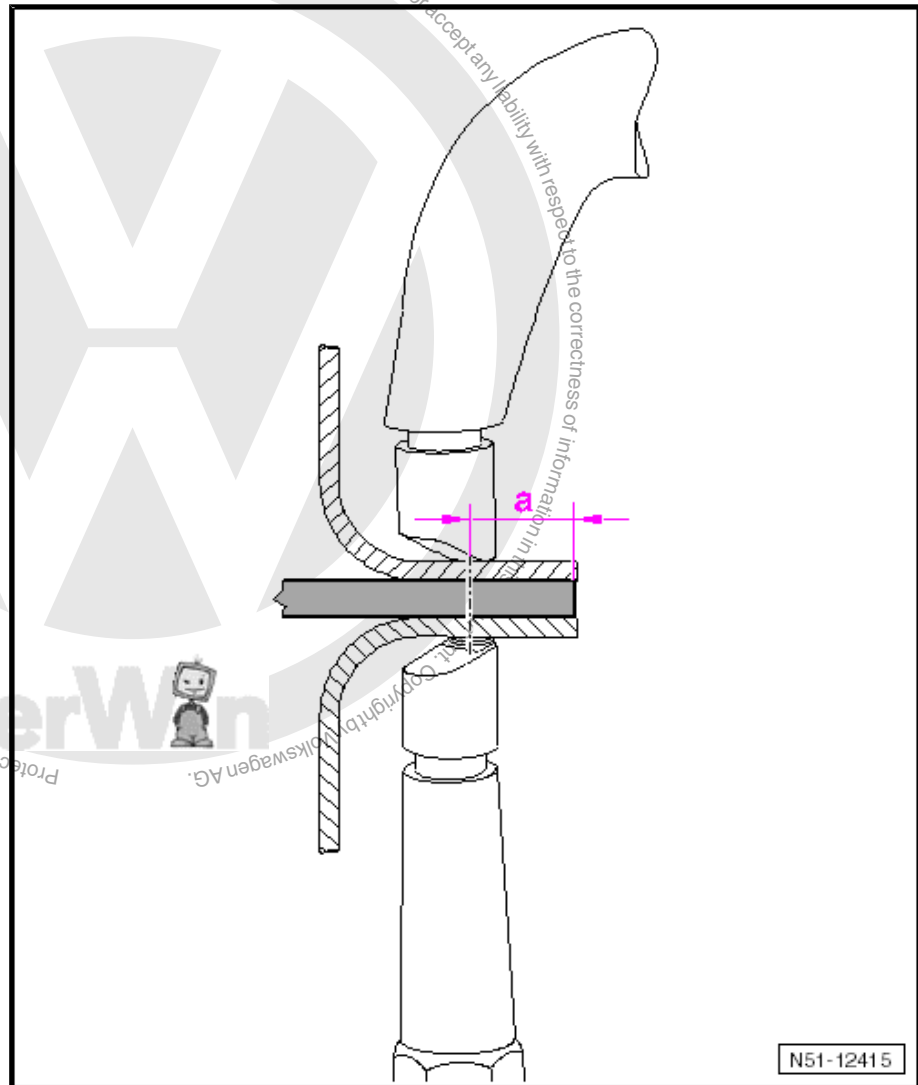


- Position two Butyl Sealing Cords - AKD 497 010 04 R10- in area -1-.
- Apply a 4 mm adhesive bead of 2K Body Adhesive - D 180 003 M2- near the door opening and the door hinges.



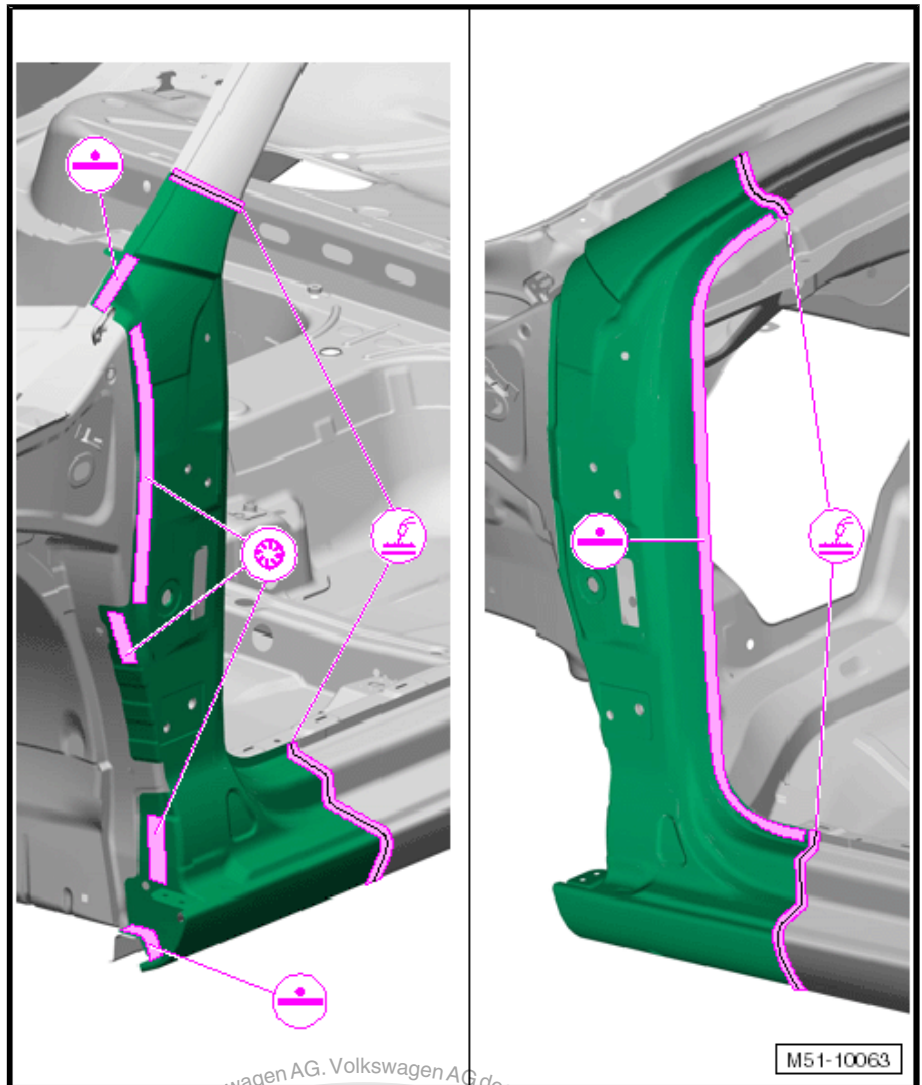
#### Note

- ◆ *High-strength/highest strength hot formed is used on the A-, B- and C-pillars. The welding flanges in these areas are approximately 13 mm wide.*
- ◆ *If the weld points are placed on the edge of the hot-formed steel panels, the high temperatures will change the structure of the steel and this will negatively affect the crash worthiness.*

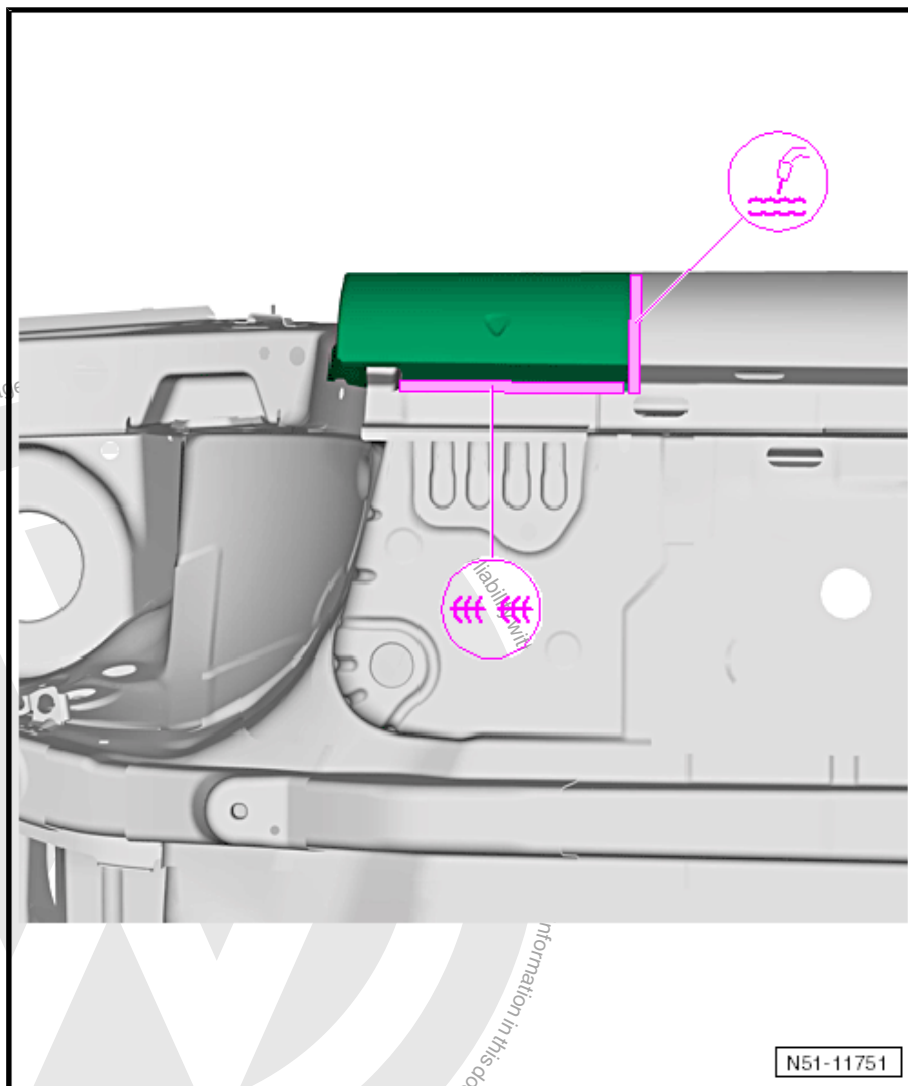


The weld points must be made as far as possible to the inside.

- Install new part with vehicle standing on the alignment bracket set and affix it in place.
- Check fit with attachments.



- Weld the separation cuts, either with MIG soldered seam or a gas-shielded arc continuous weld seam.
- Weld the door opening, windshield opening and the sill panel end plate with a straight-line spot weld seam.
- Weld the A-pillar to the A-pillar reinforcement with a gas-shielded arc plug weld seam.



- Weld the separation cut, either with MIG soldered seams or a gas-shielded arc continuous weld seam
- Weld the joint to sill panel reinforcement with a gas-shielded arc continuous weld seam (staggered).





RO: 51 38 55 50

## 7 A-Pillar Reinforcement, Replacing

⇒ [“7.1 Tools”, page 142](#)

⇒ [“7.3.2 Molded Foam Parts”, page 147](#)

⇒ [“7.3 Installing”, page 145](#)



### WARNING

**Follow all safety precautions.**

***If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.***

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- A-pillar already removed, refer to  
⇒ [“6 A-Pillar, Replacing”, page 129](#)
- The wheel housing upper outer longitudinal member is already removed, refer to  
⇒ [“5 Upper Wheel Housing Longitudinal Member, Replacing”, page 52](#).



1 - A-Pillar Reinforcement

2 - Molded Foam Part



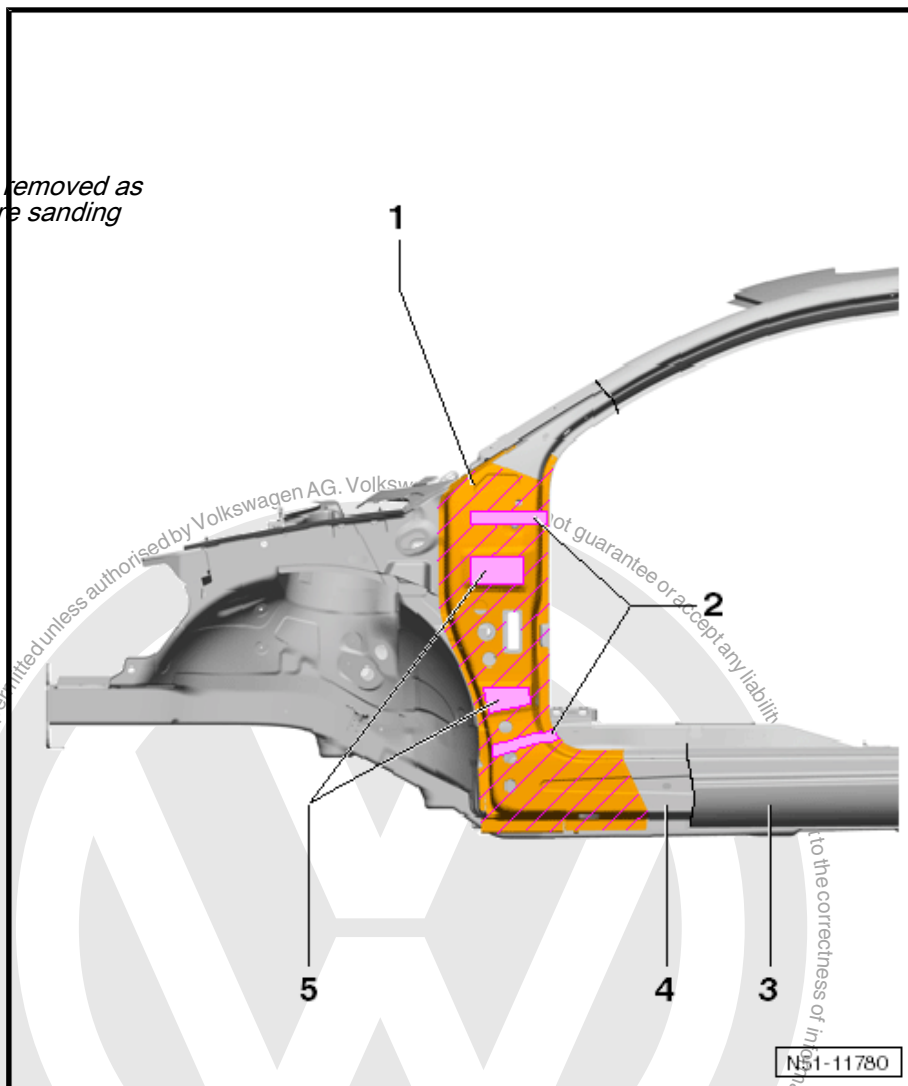
Note

*Foam residue must be removed as much as possible before sanding work.*

3 - Outer Sill Panel

4 - Sill Panel Reinforcement

5 - Bonded Area



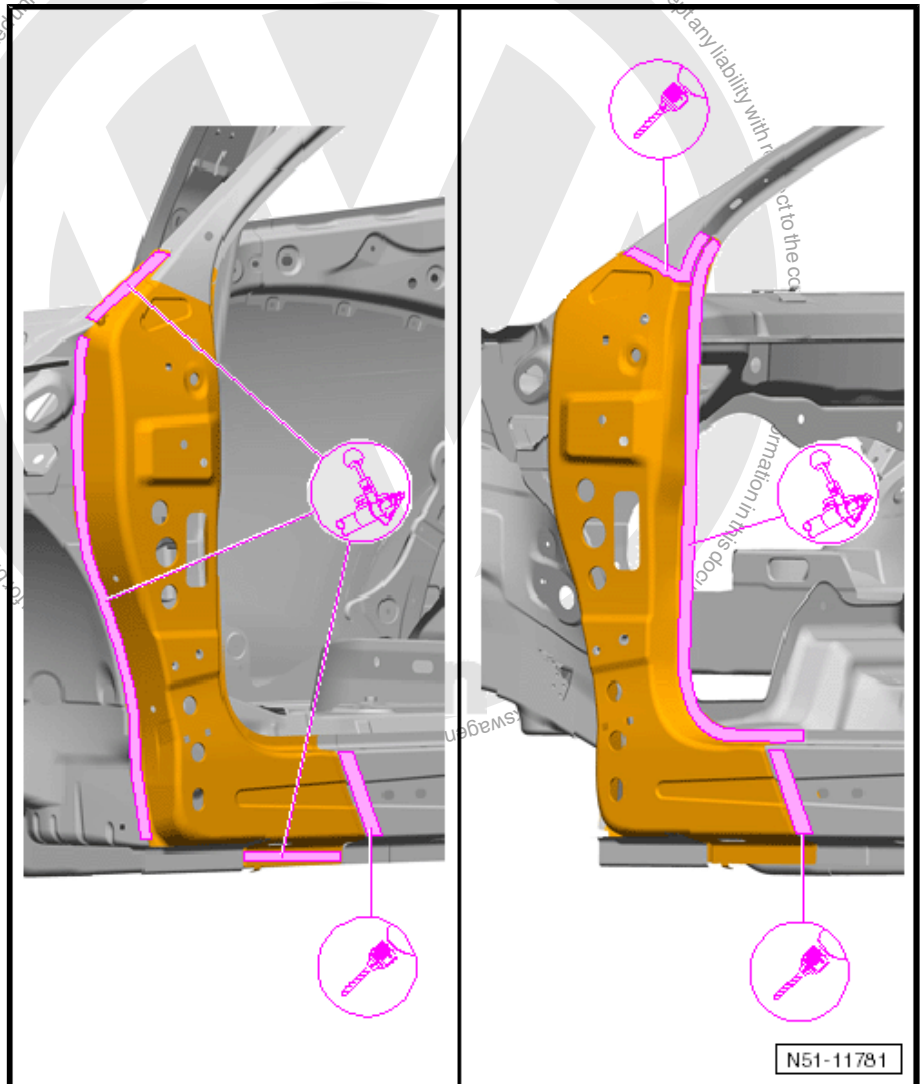
## 7.1 Tools



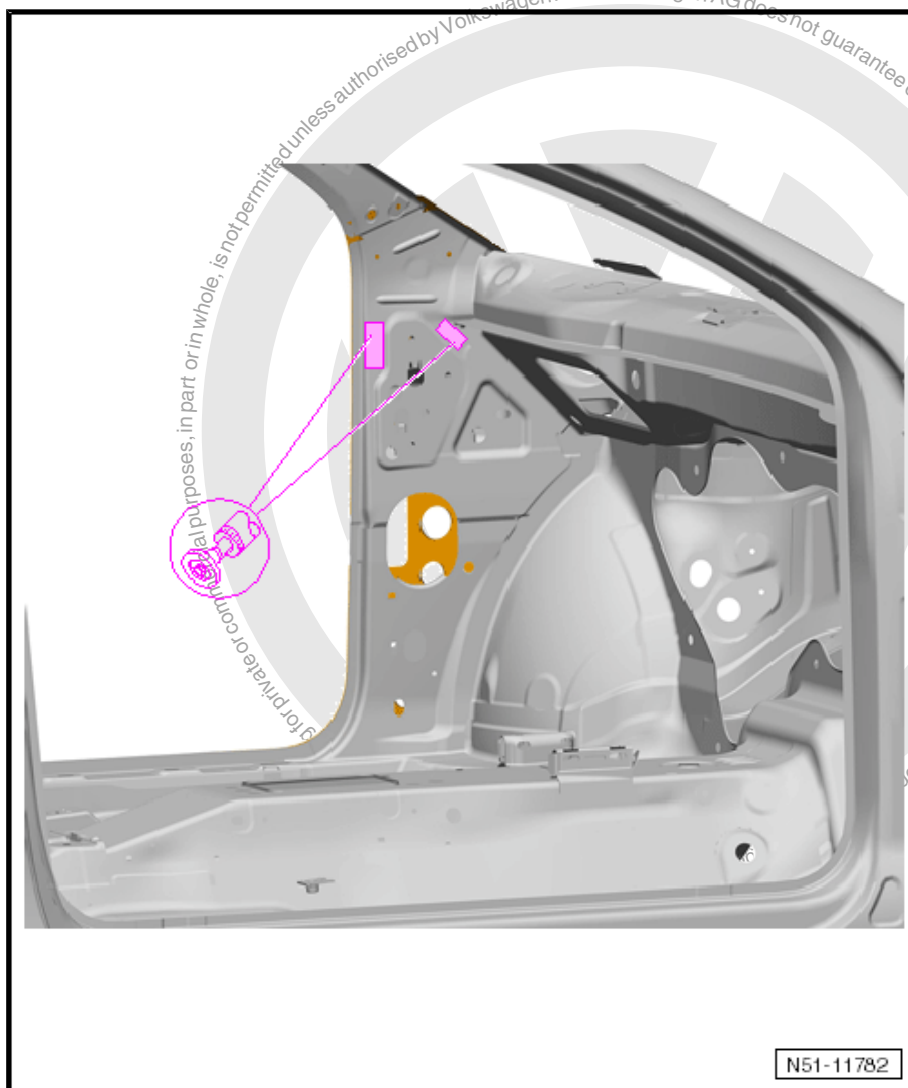
Note

- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*

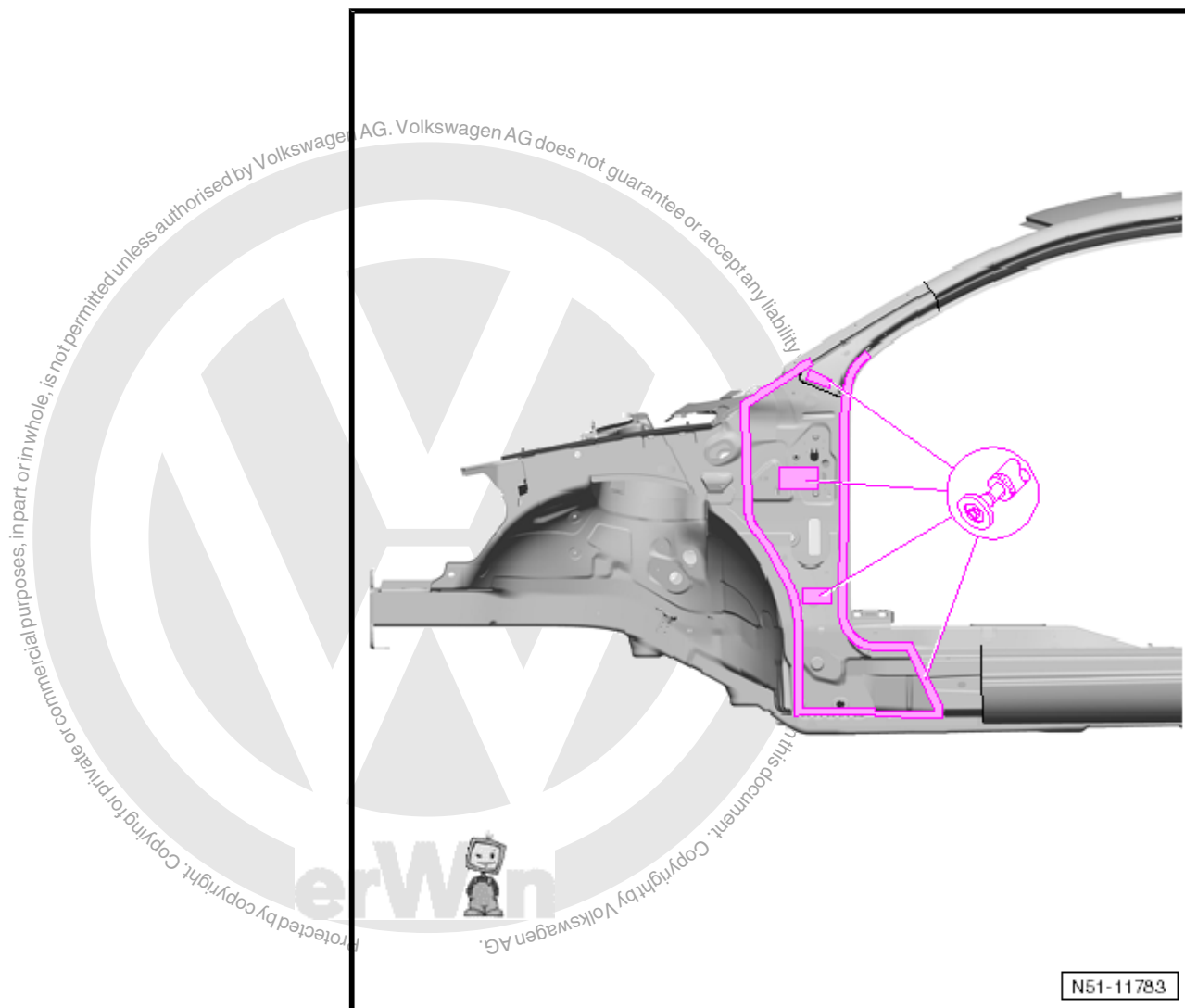
## 7.2 Removing



- Separate original joint of A-pillar reinforcement.



- Loosen upper hinge reinforcement weld seam from inside.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

## 7.3 Installing

⇒ [“7.3.1 Preparing New Parts”, page 146](#)

⇒ [“7.3.2 Molded Foam Parts”, page 147](#)

⇒ [“7.3.3 Welding”, page 148](#)



### Note

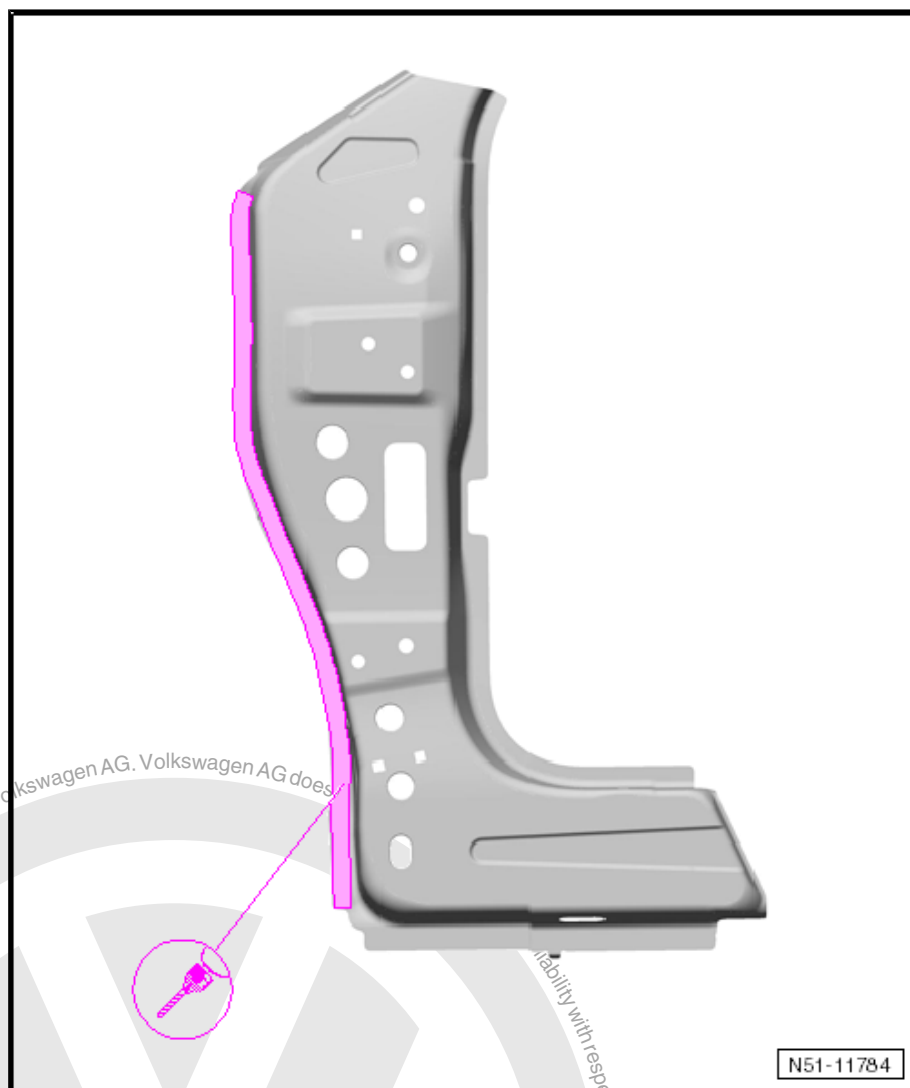
*Use only welding equipment approved by Volkswagen AG, refer to [“7.1 Tools”, page 142](#).*



### 7.3.1 Preparing New Parts

#### Replacement Part

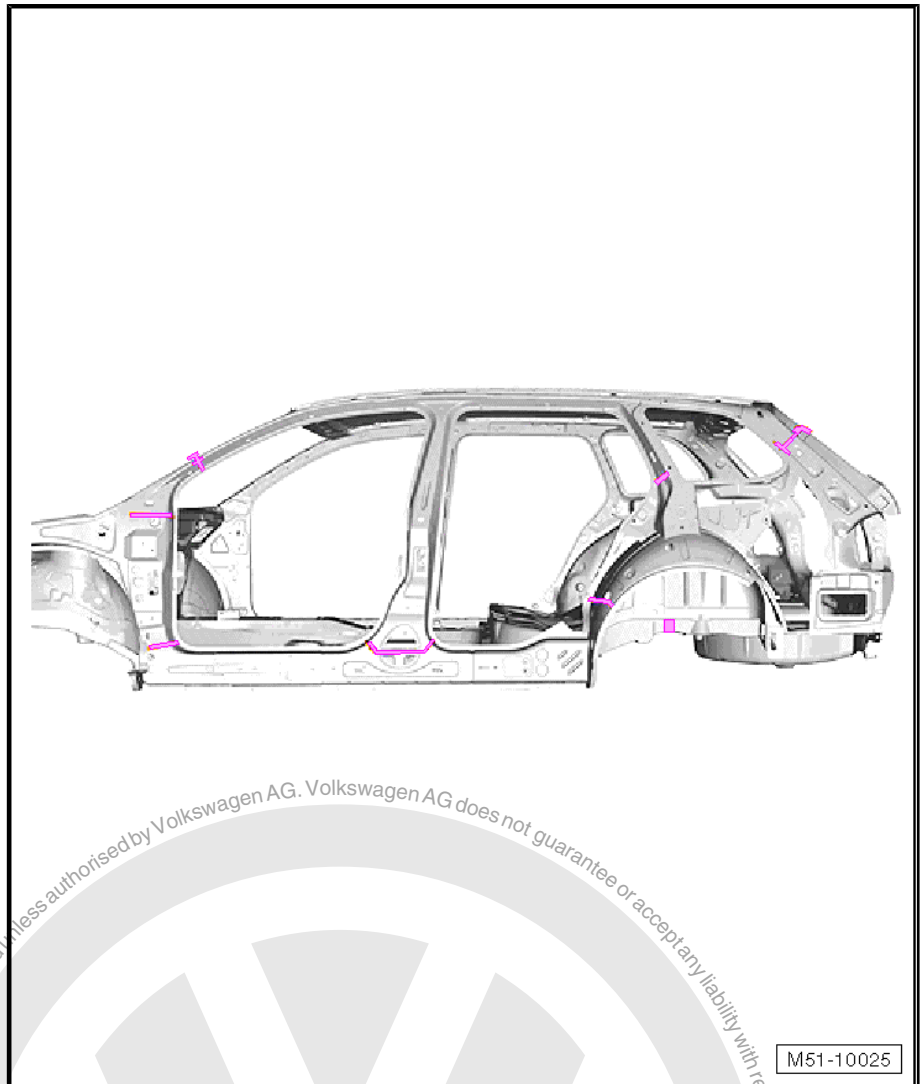
- ◆ A-pillar reinforcement
- ◆ Molded Foam Part
- ◆ 2K Body Adhesive - D 180 003 M2-



- Drill 7 mm holes for the gas-shielded arc plug weld seam.



### 7.3.2 Molded Foam Parts



#### Observe Repair Notes:

Molded foam parts, refer to ⇒ General Information; Body Repairs,  
Body Collision Repair



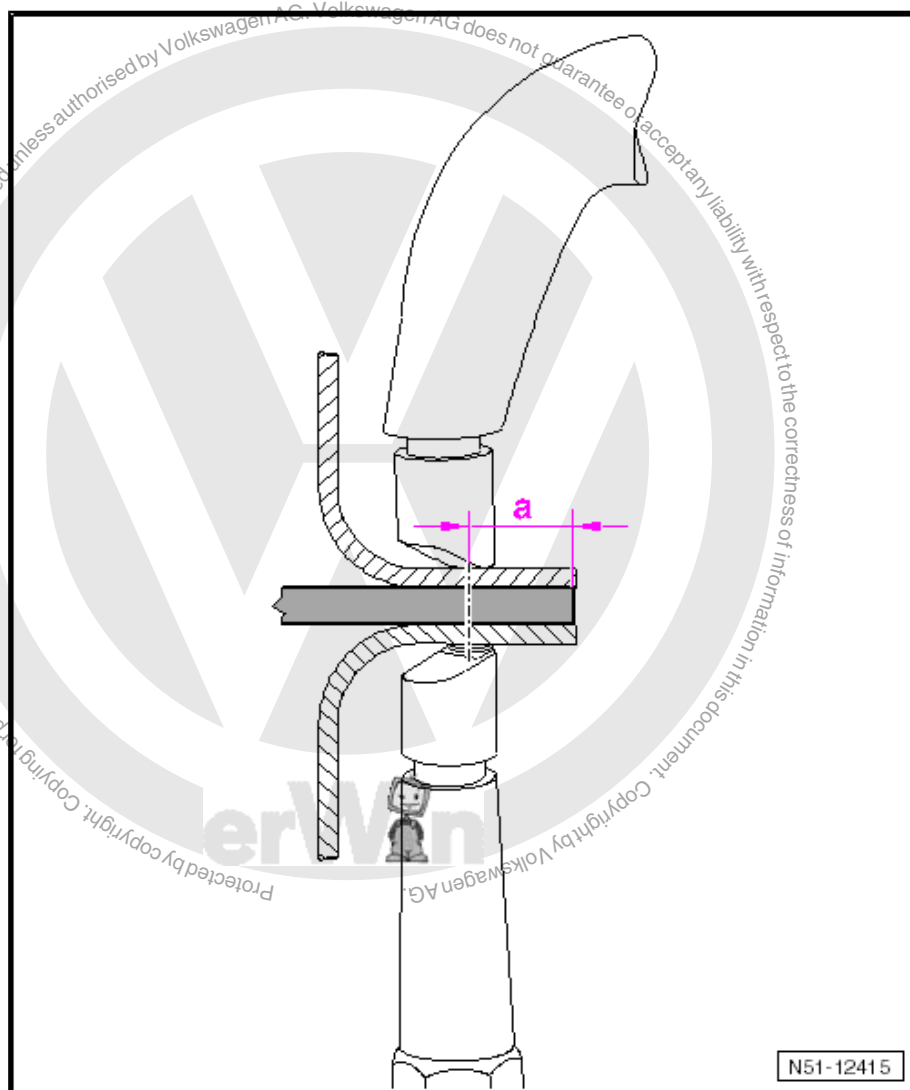


### 7.3.3 Welding



#### Note

- ♦ *High-strength/highest strength hot formed is used on the A-, B- and C-pillars. The welding flanges in these areas are approximately 13 mm wide.*
- ♦ *If the weld points are placed on the edge of the hot-formed steel panels, the high temperatures will change the structure of the steel and this will negatively affect the crash worthiness.*

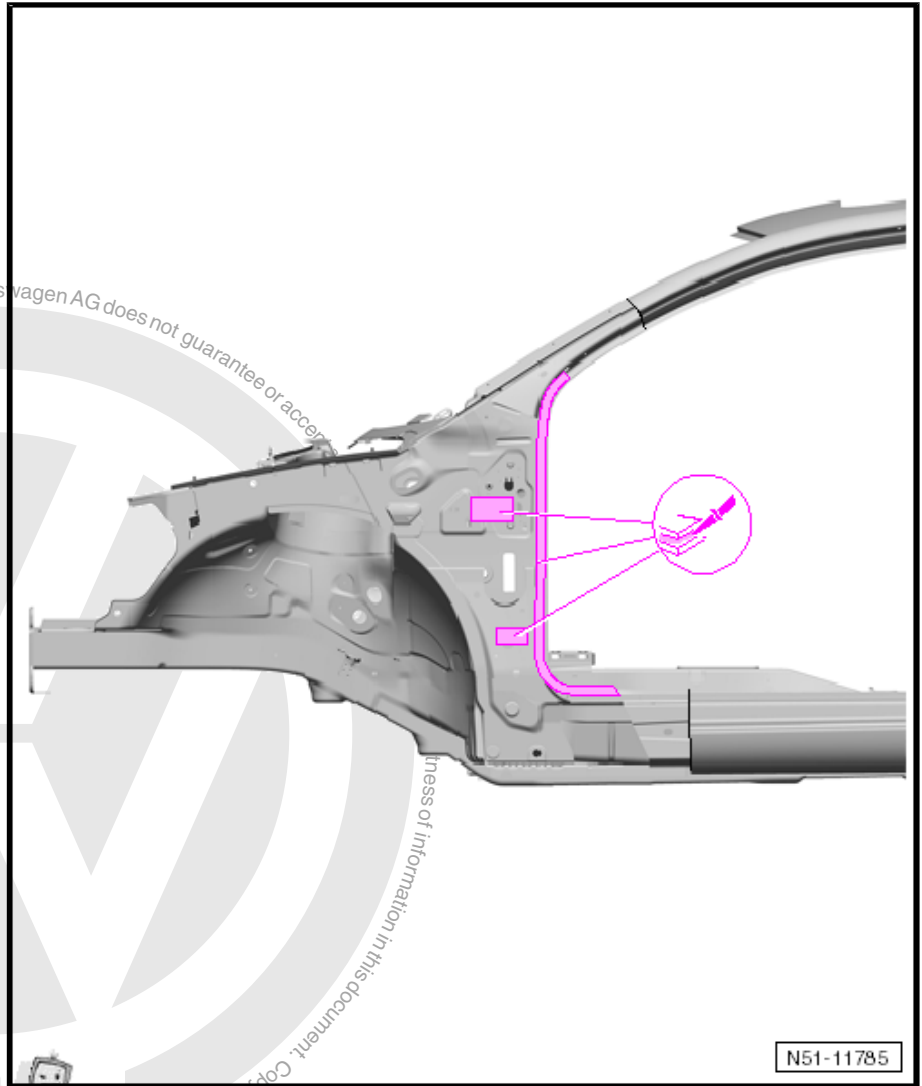


The weld points must be made as far as possible to the inside.

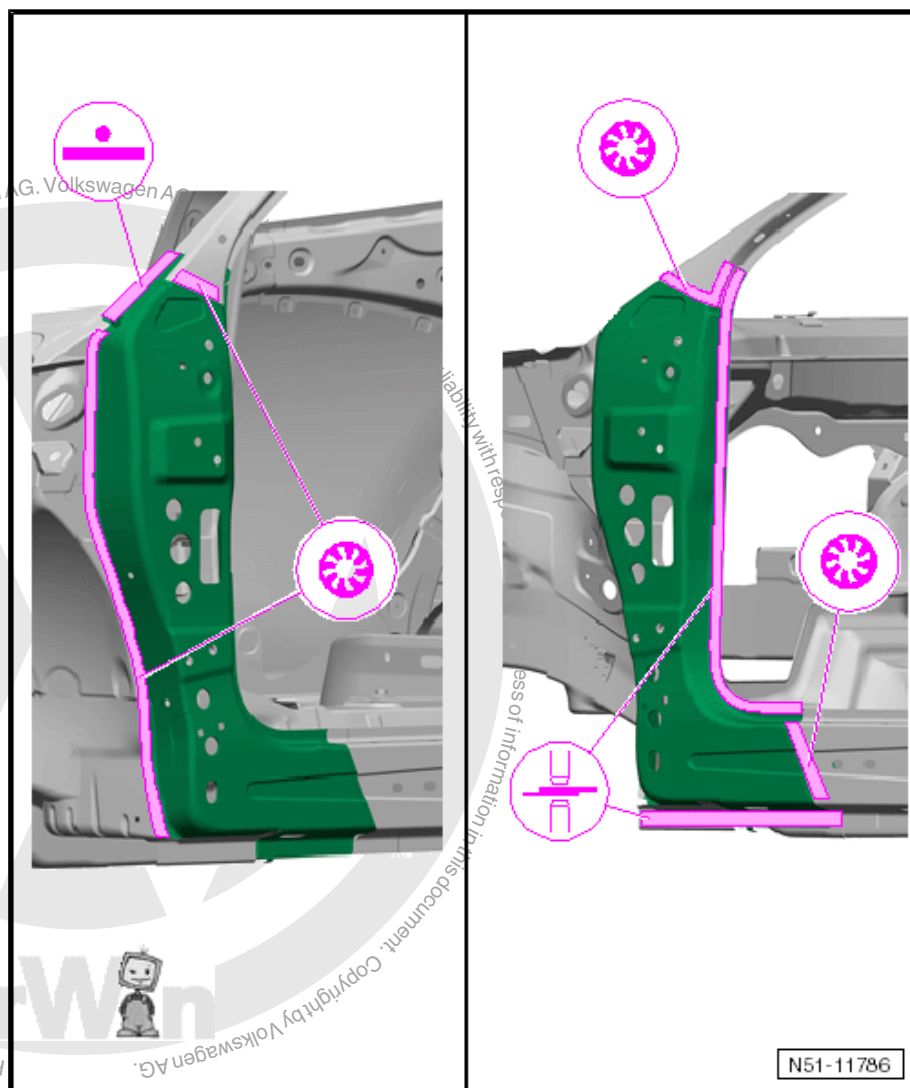


#### Note

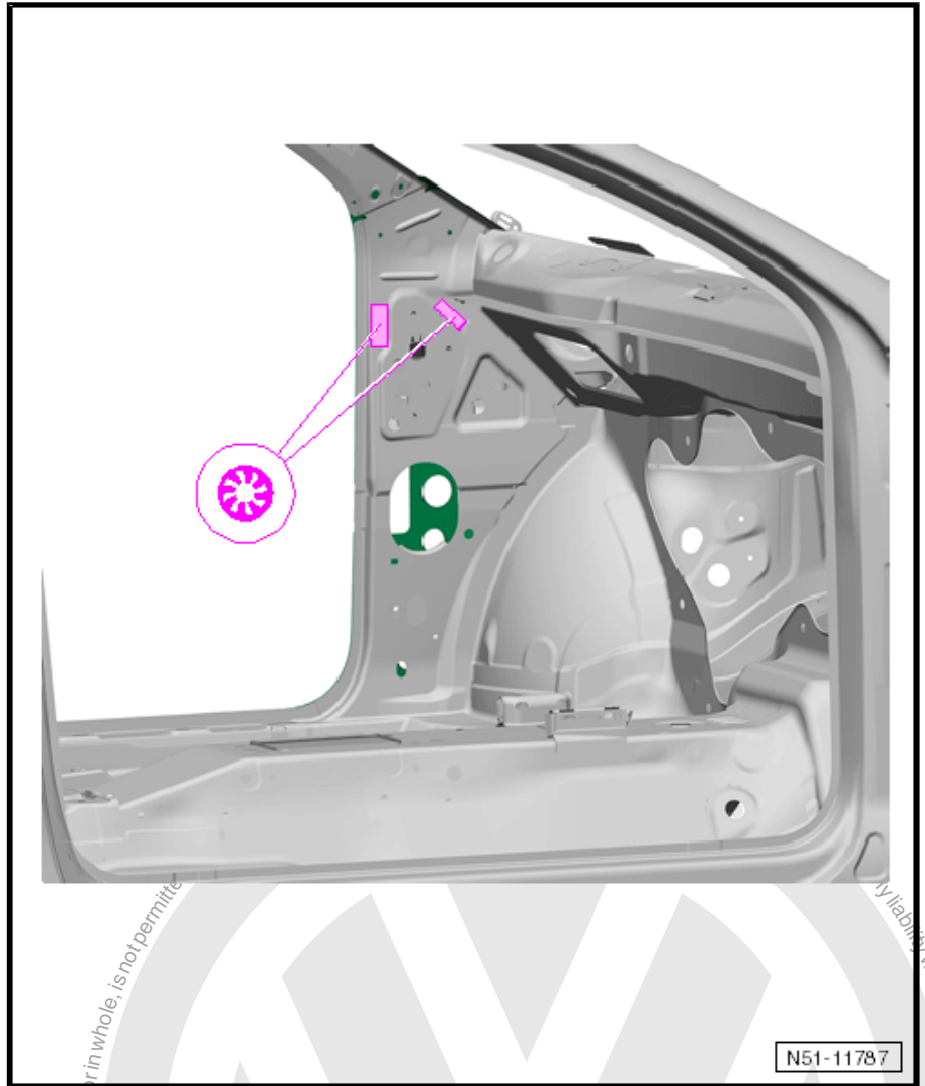
*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*



- Apply 2K Body Adhesive - D 180 003 M2- near the hinge reinforcement and the door opening.
- Install new part with vehicle standing on the alignment bracket set and affix it in place.
- Check fit to A-pillar.



- Weld in A-pillar reinforcement, straight-line spot weld seam inverter and gas-shielded arc plug weld seam.



- Weld the connection for the upper hinge reinforcement from the inside with a gas-shielded arc plug weld seam.
- Install the A-pillar, refer to ⇒ [“6.3 Installing”, page 133](#) .
- Install the wheel housing upper outer longitudinal member, refer to ⇒ [“5.3 Installing”, page 55](#) .



RO: 51 41 55 00

## 8 B-Pillar, Replacing

⇒ "8.1 Tools", page 153

⇒ "8.2 Removing", page 154

⇒ "8.3.4 Welding", page 161



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

⇒ General Information; Body Repairs, Body Collision Repair

1 - Bonded Area

2 - Rear Sill Panel

3 - Molded Foam Part



### Note

*Foam residue must be removed as much as possible before sanding work.*

4 - Front Sill Panel

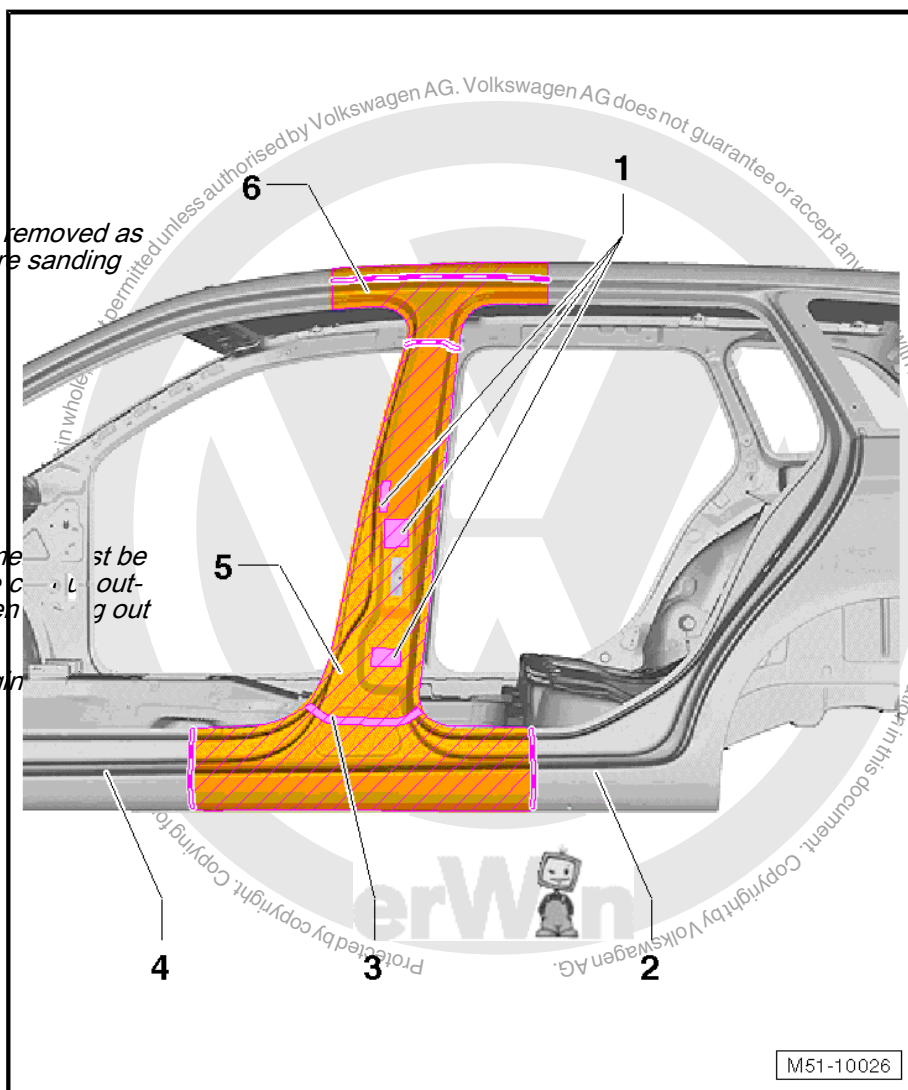
5 - B-Pillar

6 - Expanded Repair Area



### Note

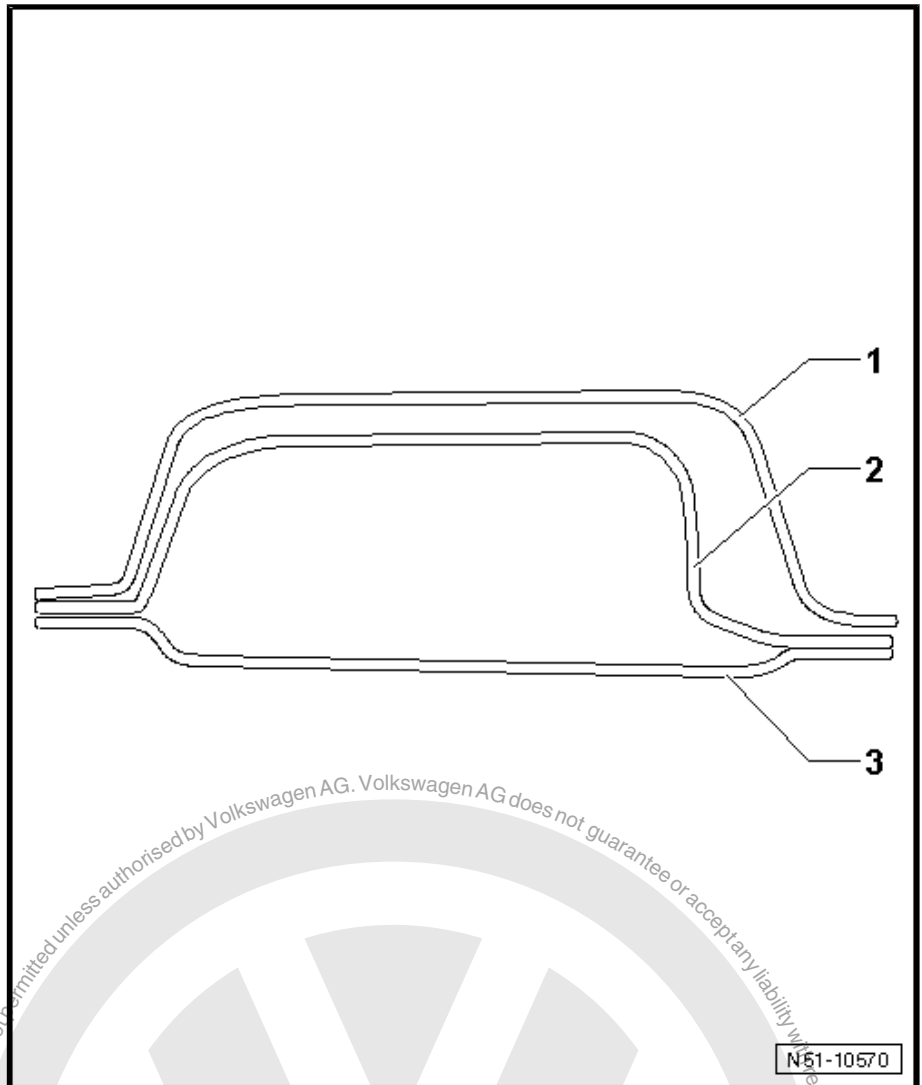
- ◆ If B-pillar reinforcement is replaced, it must be cut out of area -6- when B-pillar is replaced.
- ◆ Do not damage original roof.



Upper B-Pillar Cut



- 1 - Outer B-Pillar
- 2 - B-Pillar Reinforcement
- 3 - Inner B-Pillar



## 8.1 Tools



### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

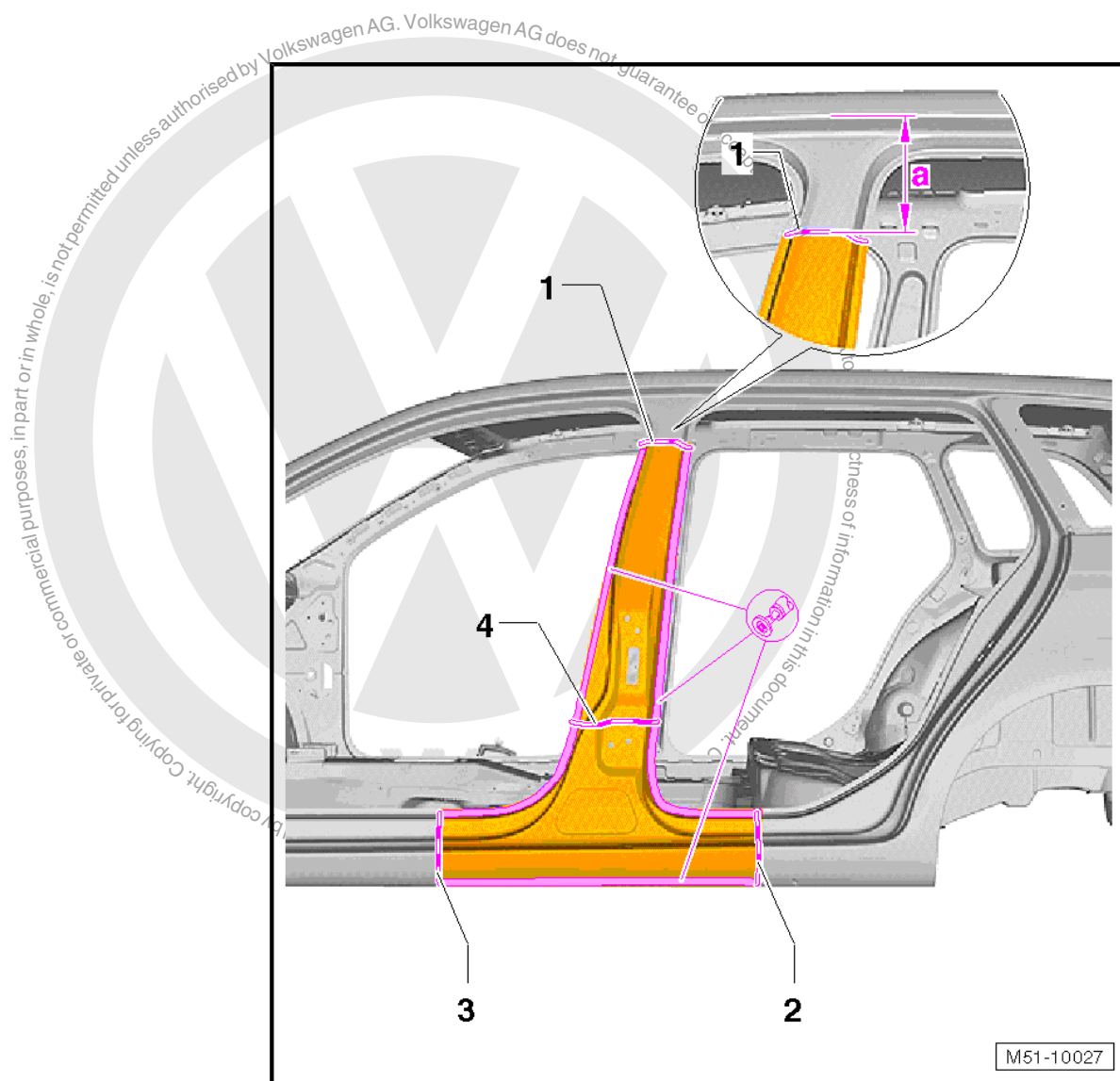


## 8.2 Removing



### Note

- ◆ Only use the body Pneumatic Body Saw - VAS6780- to perform separating cuts.
- ◆ Be careful not to damage the reinforcements on the inside. Pay attention to the cut identification, refer to [page 152](#).
- ◆ If B-pillar reinforcement is to be replaced as well, front part of sill panel (separating cut -3-, 430 mm from forward edge of sill panel) and area -item 6- [⇒ Item 6 \(page 152\)](#) must also be cut out during the cutting out procedure.
- ◆ Do not damage original connection to roof when doing this.



- Perform separating cut -1- as shown.

**Dimension -a- = 100 mm.**

- Make the separation cuts -2 and 3- on the sill panel depending on the damage.
- Pay attention to the Replacement Part separation cut when making the separation cuts.

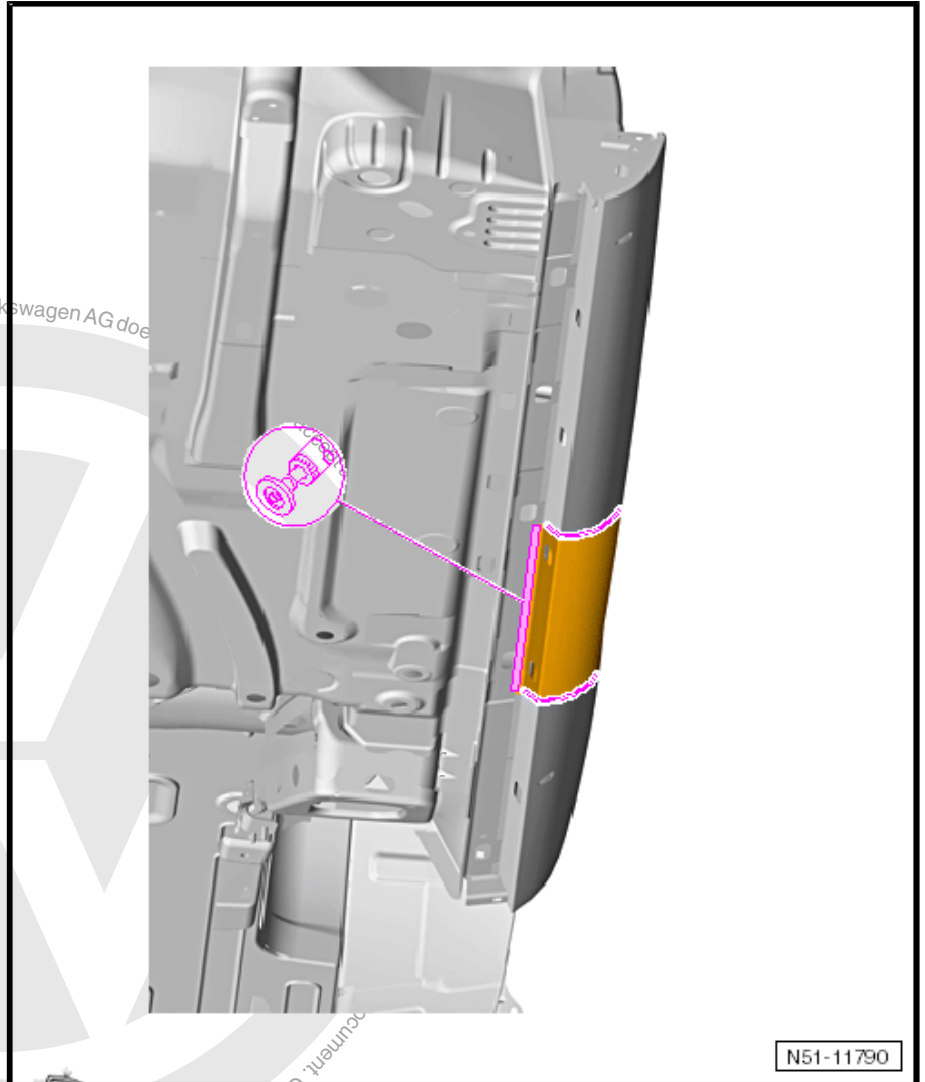




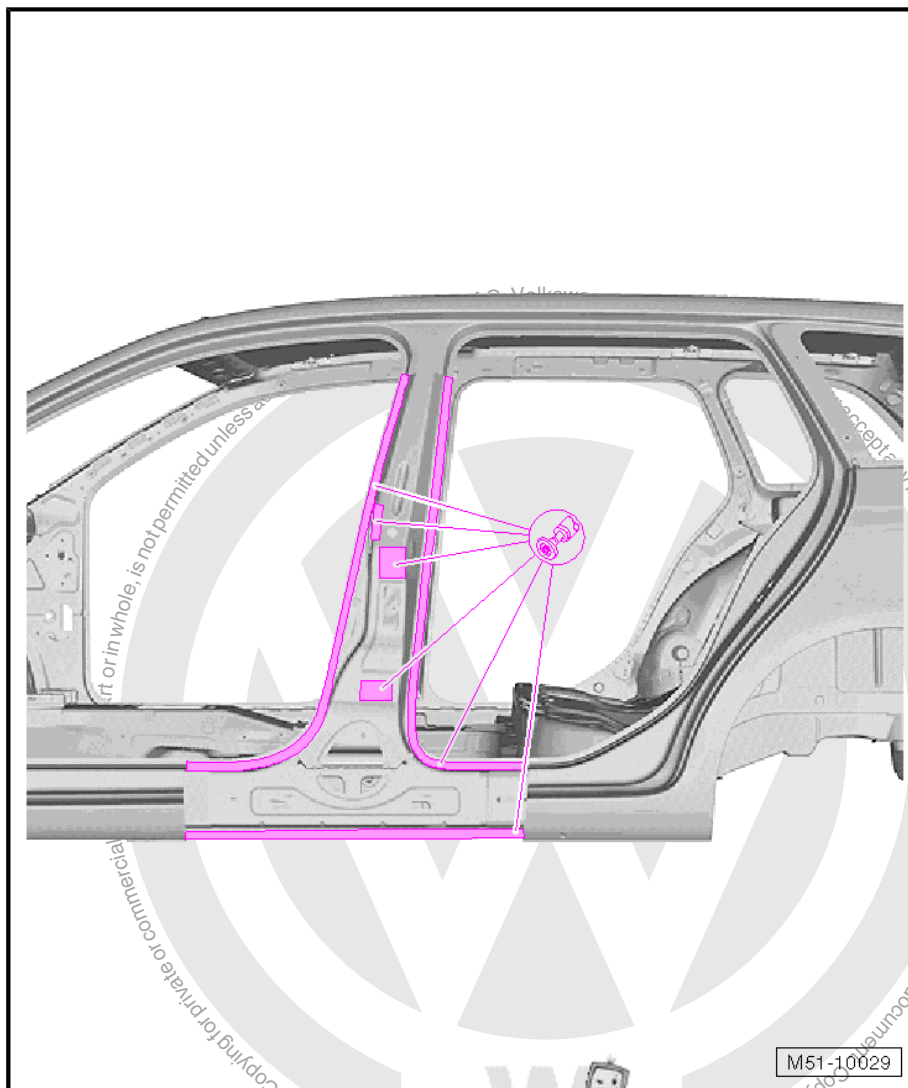
- Separate original joint.

#### Partial renewal

*The B-pillar can be partially replaced without damaging the sill panel using the separation cut -4-.*



- Separate original joint to sill panel reinforcement.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 8.3 Installing

⇒ ["8.3.1 Preparing New Parts", page 157](#)

⇒ ["8.3.2 Marking Areas in Which Welding Must Not Be Performed", page 159](#)

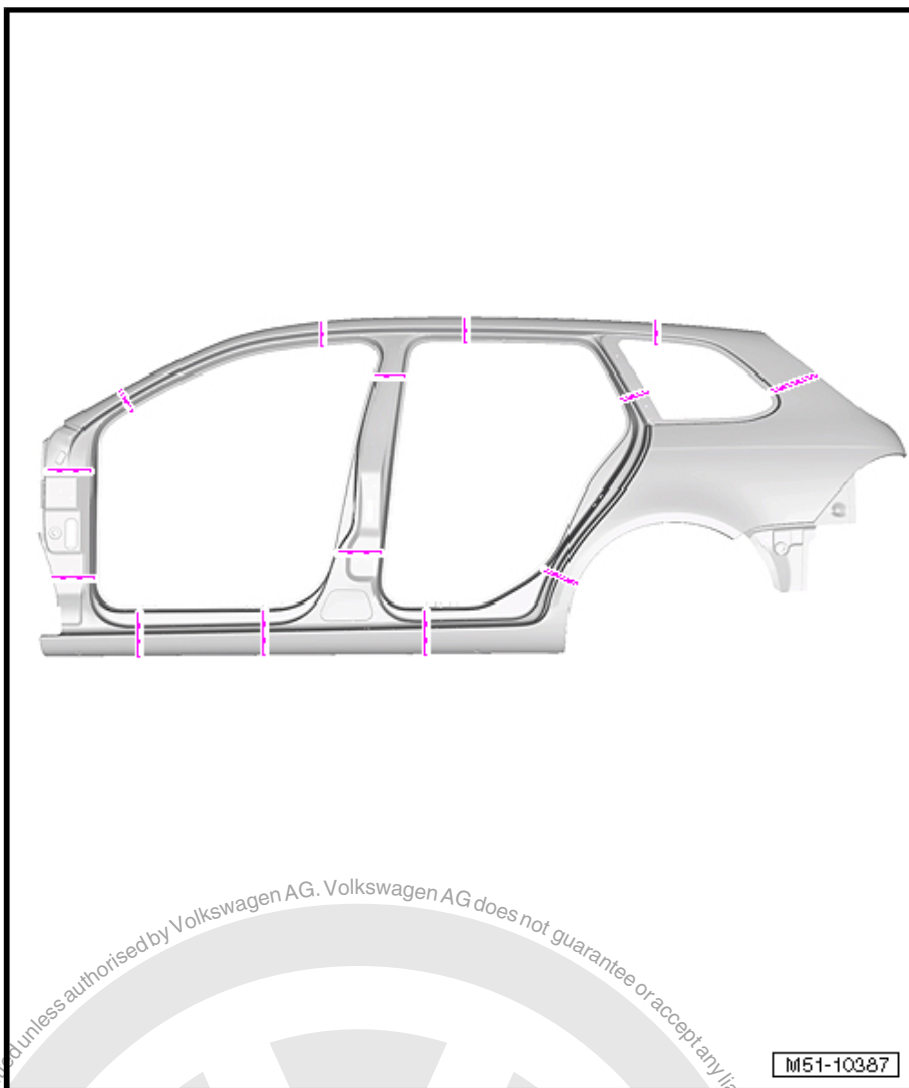
⇒ ["8.3.3 Molded Foam Parts", page 160](#)

⇒ ["8.3.4 Welding", page 161](#)



#### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["8.1 Tools", page 153](#).*



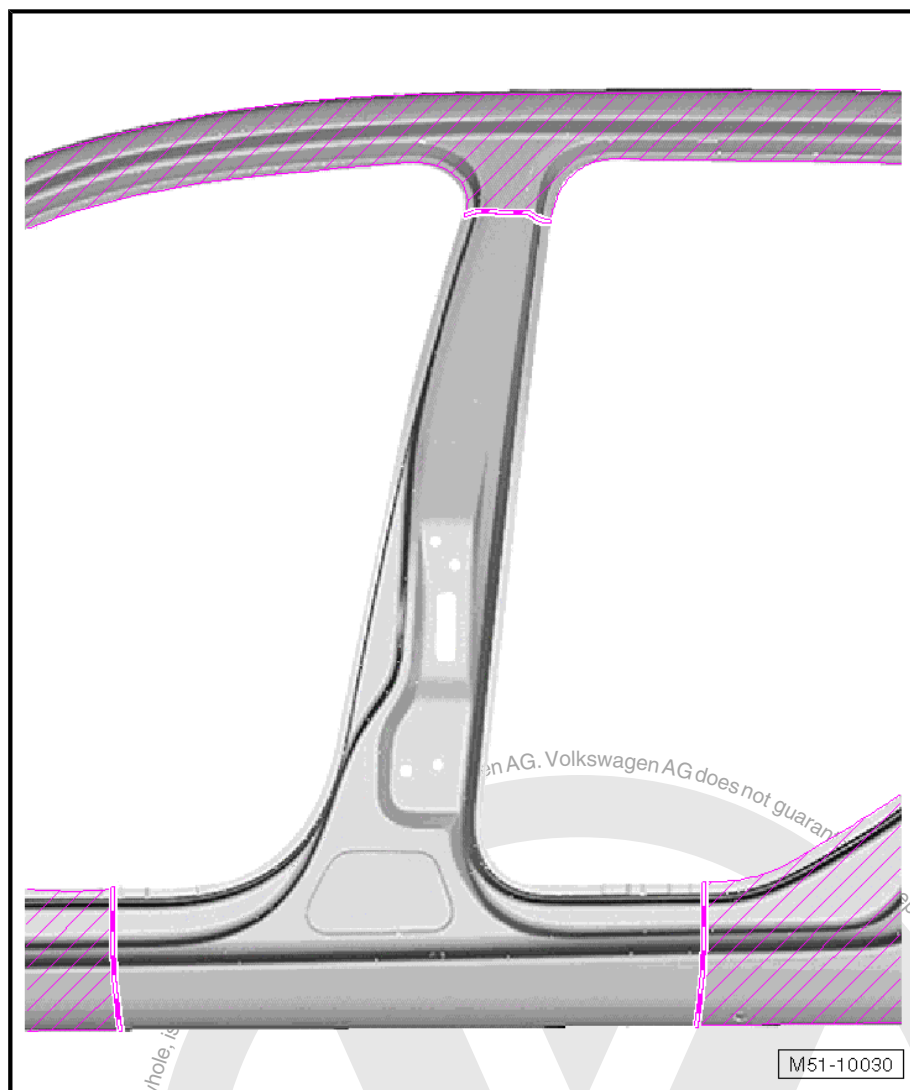
#### Note

*MIG soldered seams/gas-shielded arc continuous weld seam are permitted on the separating cuts shown in the illustration.*

### 8.3.1 Preparing New Parts

#### Replacement Part

- ◆ Side panel or sub-part
- ◆ Molded Foam Part
- ◆ 2K Body Adhesive - D 180 003 M2-



- Transfer separating cuts on to new part and cut.

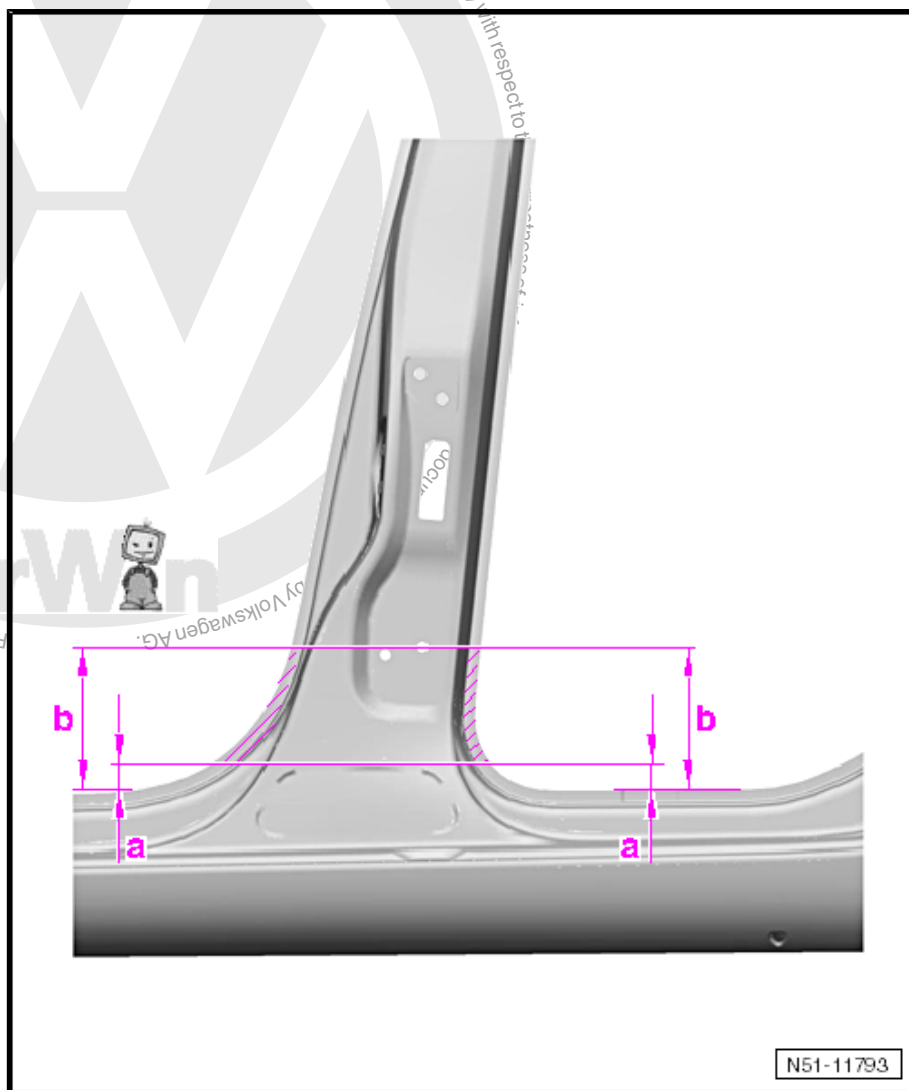


### 8.3.2 Marking Areas in Which Welding Must Not Be Performed



#### Note

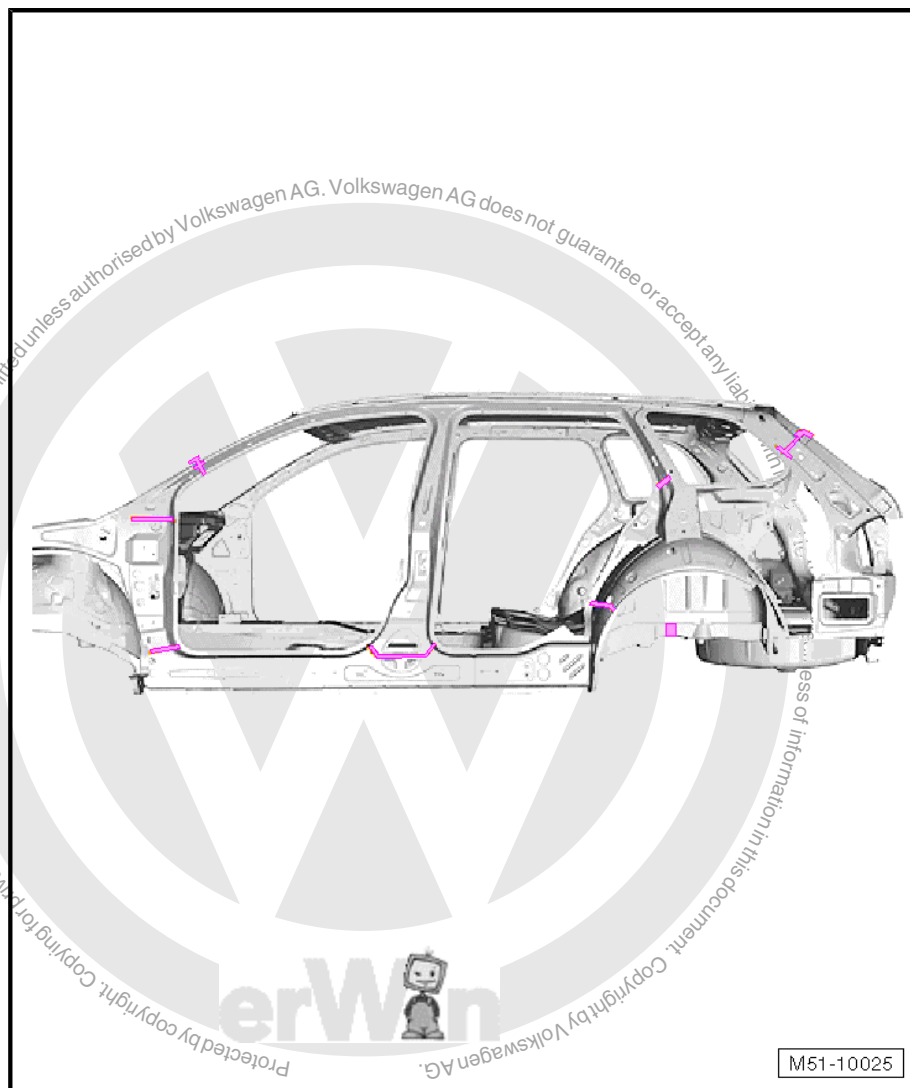
- ◆ For reasons of safety »crash safety«, areas marked in the illustration must not be welded when welding in B-pillar.
- ◆ It is important to maintain the indicated dimensions.



- On B-pillar, mark outside of area in which welding must not be performed.



### 8.3.3 Molded Foam Parts



#### Observe Repair Notes.

Molded foam parts, refer to ⇒ General Information; Body Repairs,  
Body Collision Repair

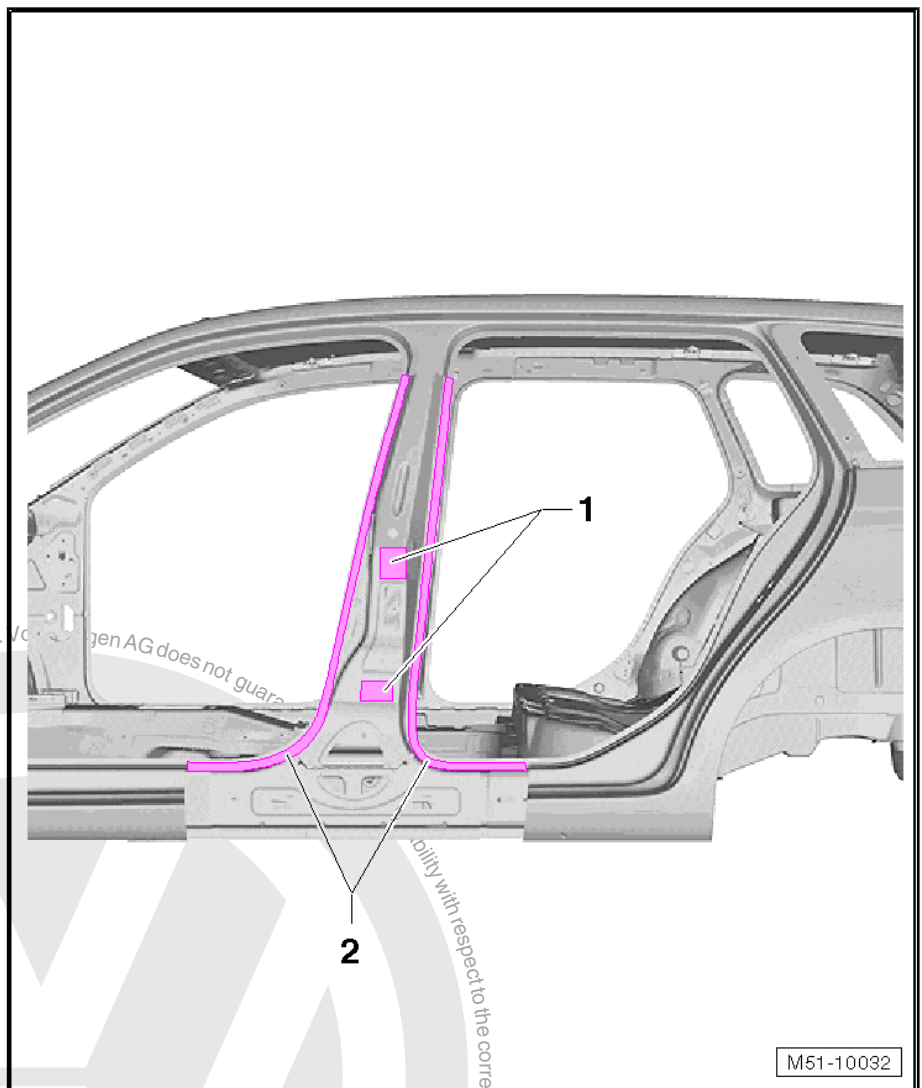


### 8.3.4 Welding



#### Note

- ◆ *New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*
- ◆ *Screw holes must remain free of adhesive in hinge reinforcement area.*

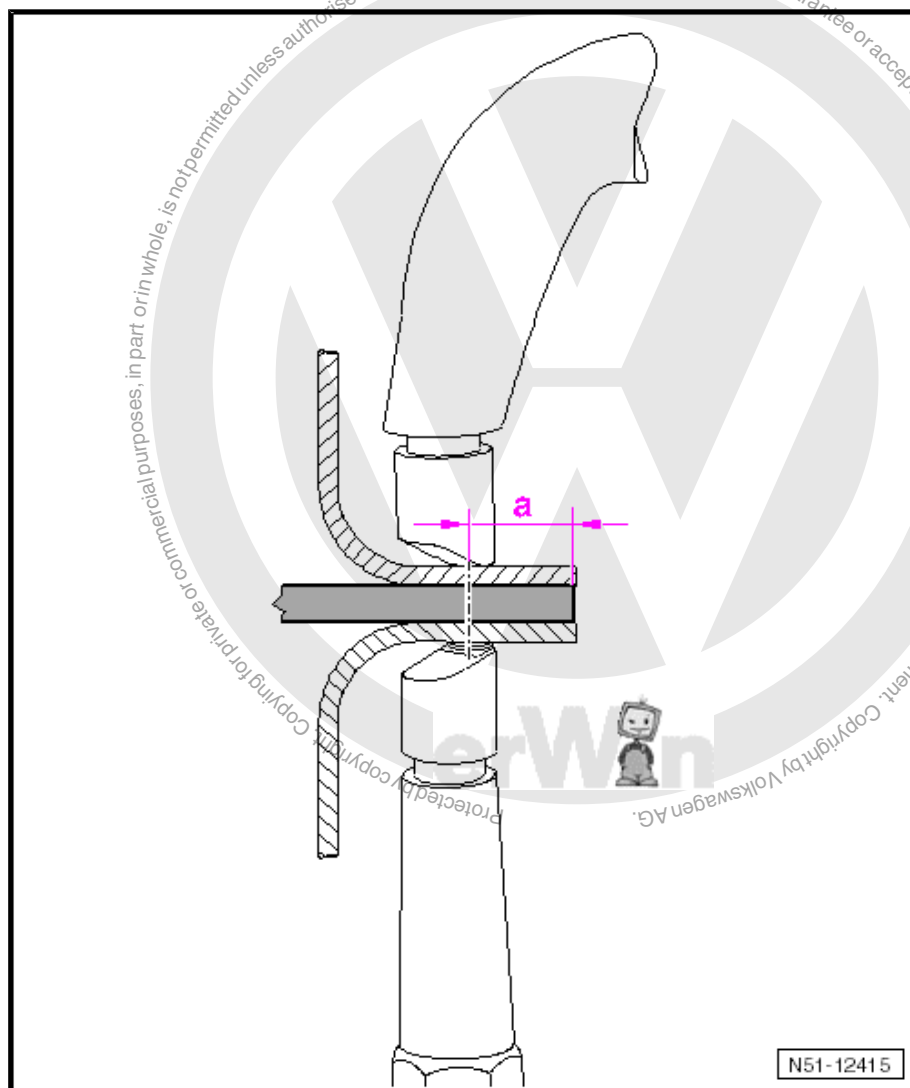


- Apply a 4 mm of 2K Body Adhesive - D 180 003 M2- in area -1-.
- In area -2-, apply an approximately 4 mm adhesive bead 2K Body Adhesive - D 180 003 M2- for both.



#### Note

- ◆ *High-strength/highest strength hot formed is used on the A-, B- and C-pillars. The welding flanges in these areas are approximately 13 mm wide.*
- ◆ *If the weld points are placed on the edge of the hot-formed steel panels, the high temperatures will change the structure of the steel and this will negatively affect the crash worthiness.*



The weld points must be made as far as possible to the inside.

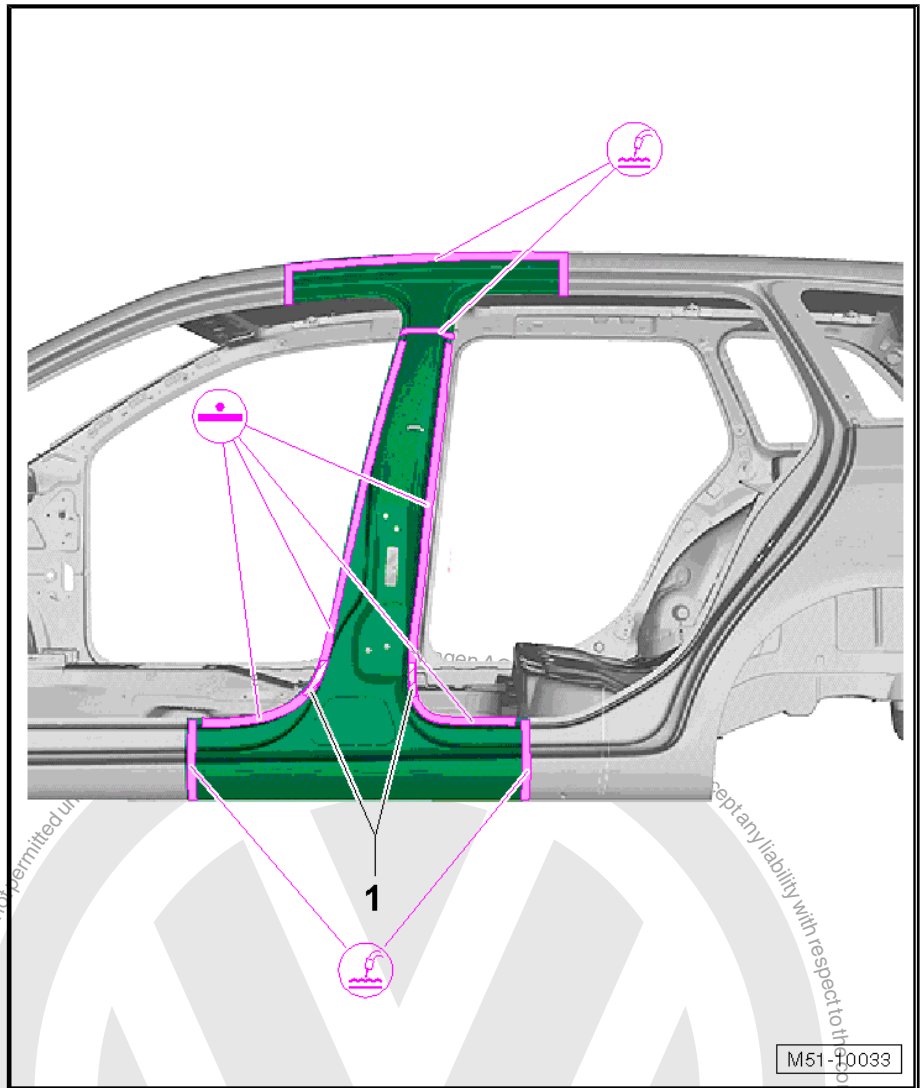
- Fit new part to vehicle standing on Straightening Bracket Set and secure.
- Check fit with attachments.



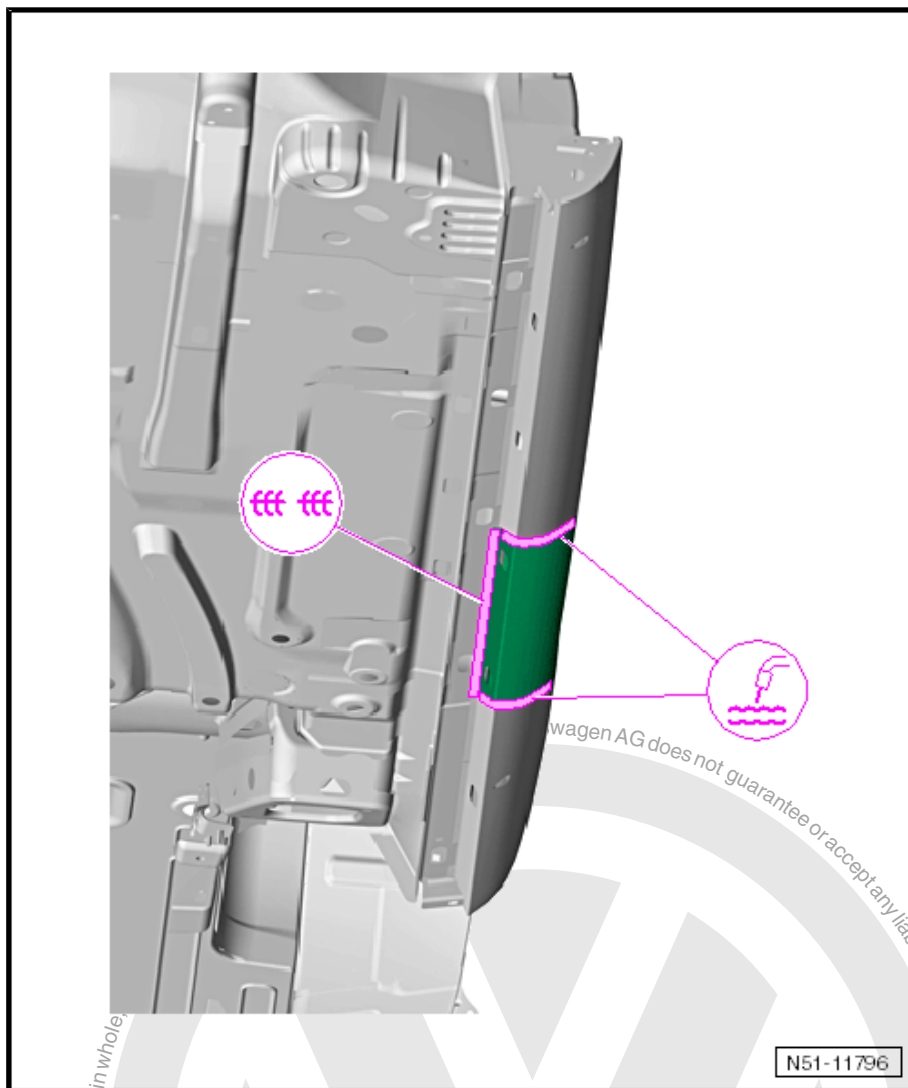
**Note**

*Pay attention to areas -1- in which welding must not be performed.*





- Weld the B-pillar, straight-line spot weld seam - inverter.
- Weld the separation cuts, either with MIG soldered seam or a gas-shielded arc continuous weld seam.



- Make the remainder of the joint for the sill panel reinforcement, gas-shielded arc continuous weld seam (staggered).
- Weld the separation cuts, either with MIG soldered seam or a gas-shielded arc continuous weld seam.
- Remove escaped adhesive.



RO: 51 42 55 50

## 9 B-Pillar Reinforcement, Replacing

⇒ ["9.1 Tools", page 166](#)

⇒ ["9.2 Removing", page 167](#)

⇒ ["9.3 Installing", page 170](#)

Front Sill Panel Reinforcement (partial section) and Rear Sill Panel Reinforcement (partial section)



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

⇒ General Information; Body Repairs, Body Collision Repair

- Outer B-pillar already removed, refer to  
⇒ ["8 B-Pillar, Replacing", page 152](#)

1 - Separating Cut

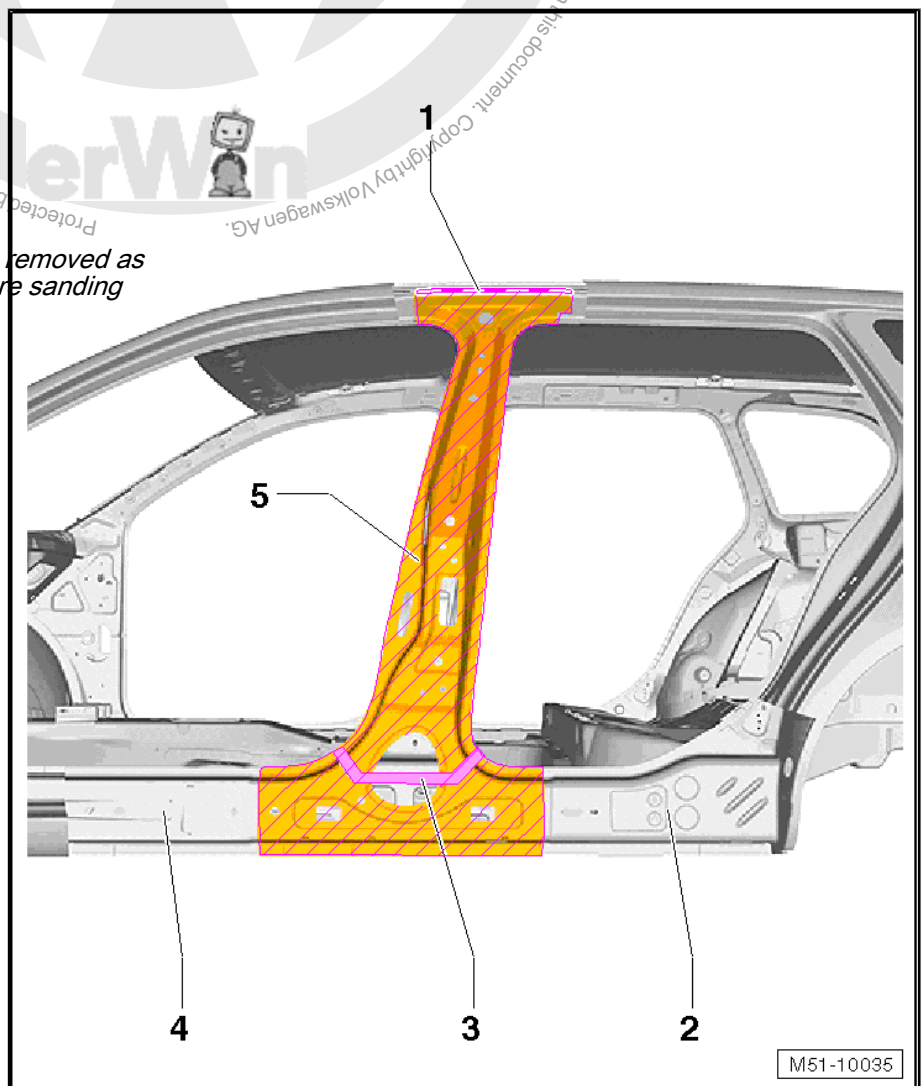
2 - Rear Sill Panel Reinforcement

3 - Molded Foam Part



### Note

*Foam residue must be removed as much as possible before sanding work.*



M51-10035



#### 4 - Front Sill Panel Reinforcement

#### 5 - B-Pillar Reinforcement



##### Note

*When replacing B-pillar reinforcement, reinforcements for front and rear sill panels must also be replaced.*

### 9.1 Tools



##### Note

- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*



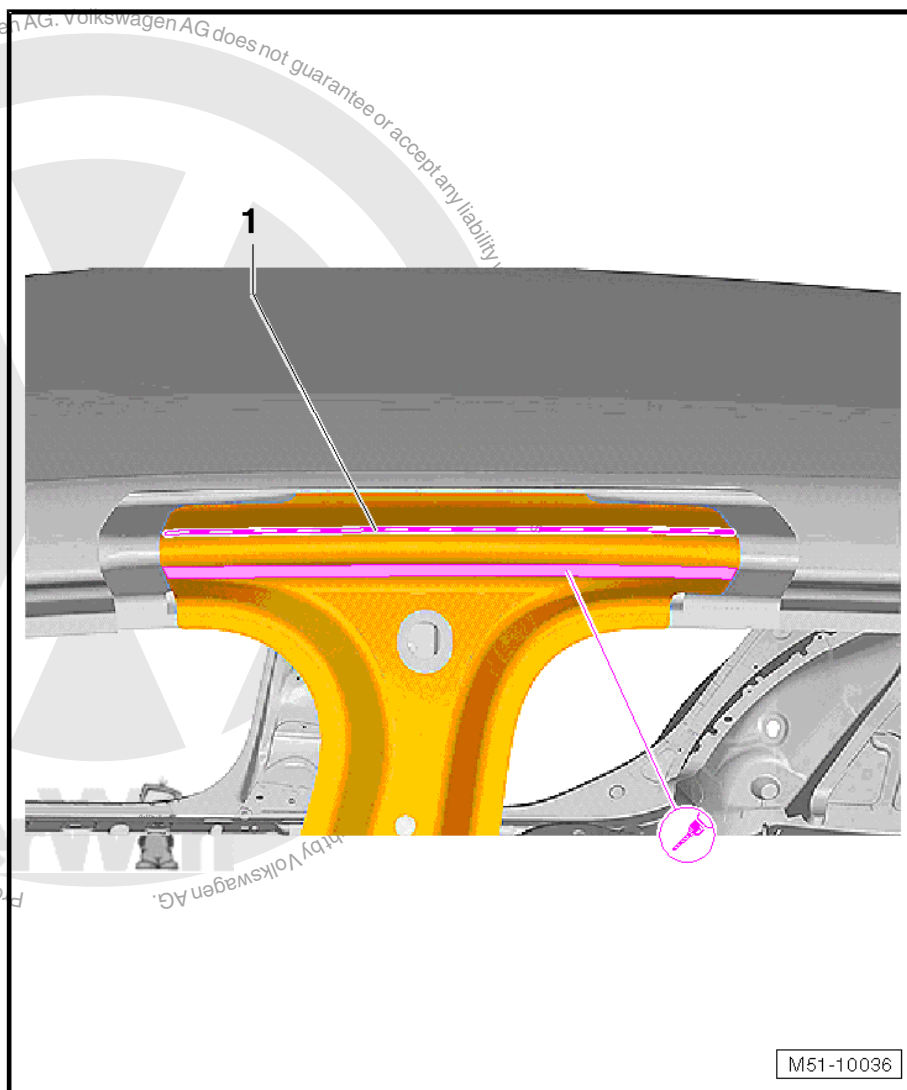


## 9.2 Removing

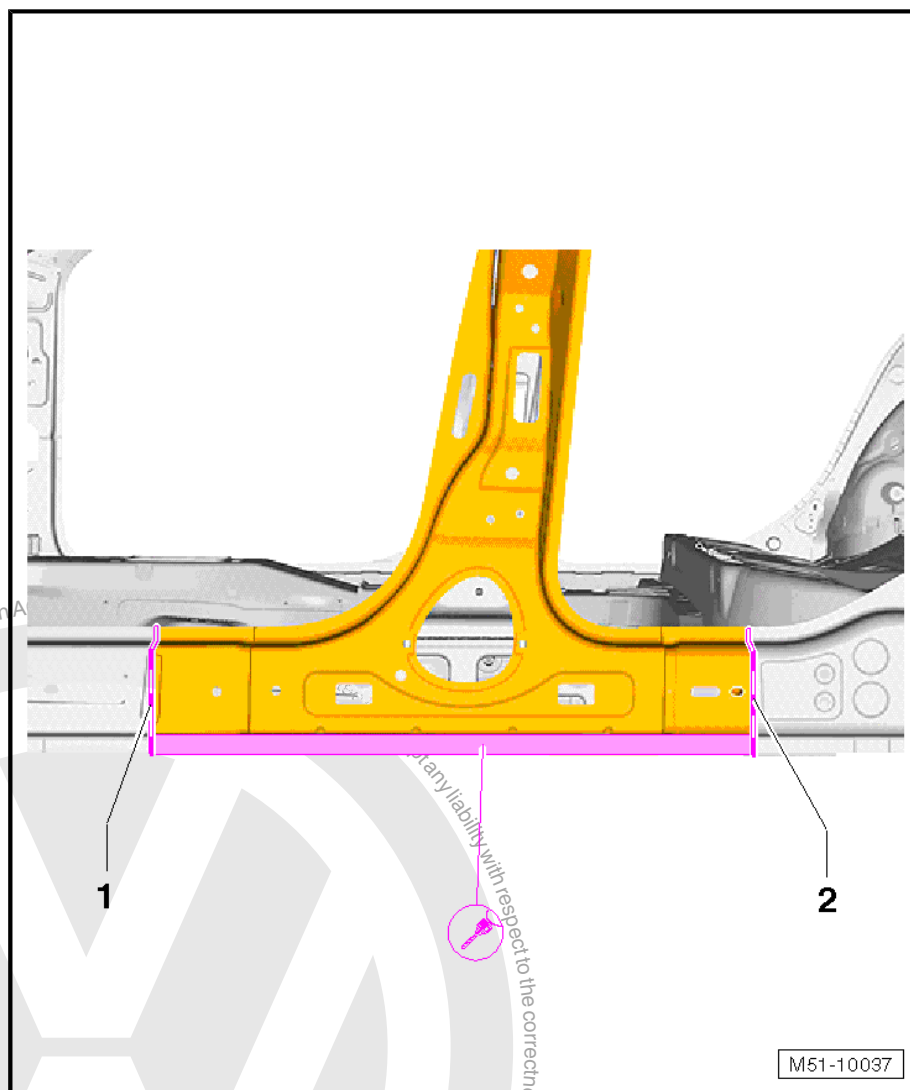


### Note

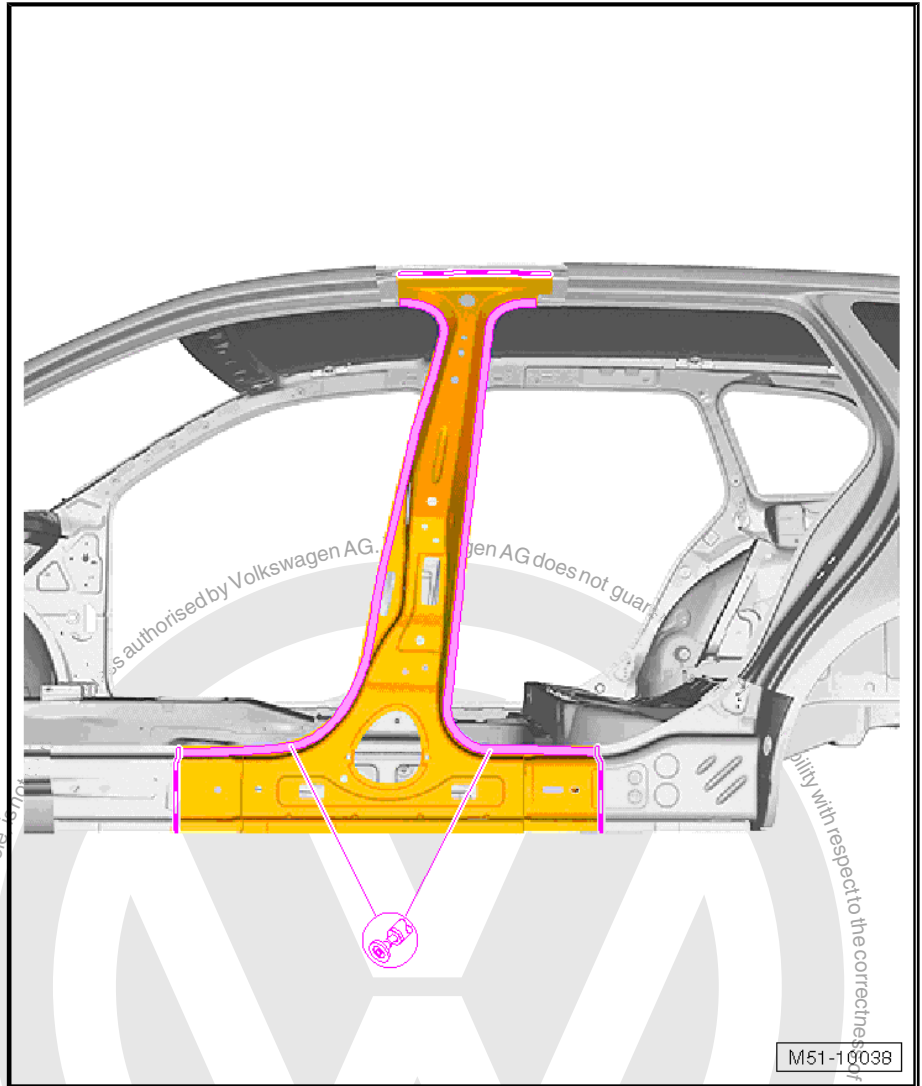
- ◆ *B-pillar reinforcement must only be separated at the indicated points -1-.*
- ◆ *For reasons of safety »crash safety«, it is not permitted to separate and weld at a point other than the ones indicated.*
- ◆ *Be careful not to cut into the plates behind it when making the separation cuts.*



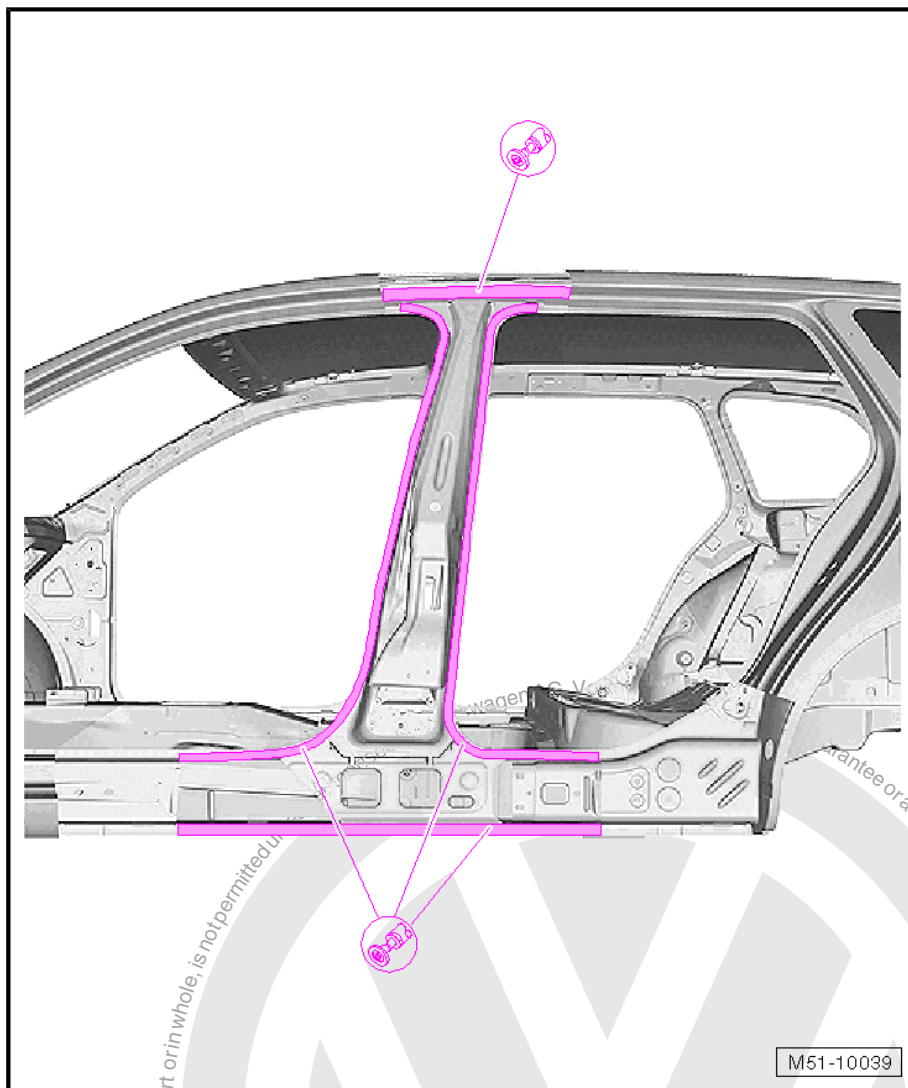
- Perform separating cut -1- in roof joint as shown. To do this, a section of roof pillar must be cut out beforehand and replaced as shown when cutting out the B-pillar.
- Separate original joint to roof pillar.



- Perform separating cuts as shown (respectively in front of 1- or behind -2- partition plates lying inside).
- Separate original joint to inner sill panel.



- Separate remaining joint in door cutouts.



- Remove remaining pieces.

## 9.3 Installing

⇒ [“9.3.1 Preparing New Parts”, page 170](#)

⇒ [“9.3.2 Marking of Areas in Which Welding Must Not Be Performed”, page 174](#)

⇒ [“9.3.3 Molded Foam Parts”, page 174](#)

⇒ [“9.3.4 Welding”, page 175](#)



### Note

Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“8.1 Tools”, page 153](#).

## 9.3.1 Preparing New Parts

### Replacement Part

- ◆ B-pillar reinforcement
- ◆ Front sill panel reinforcement



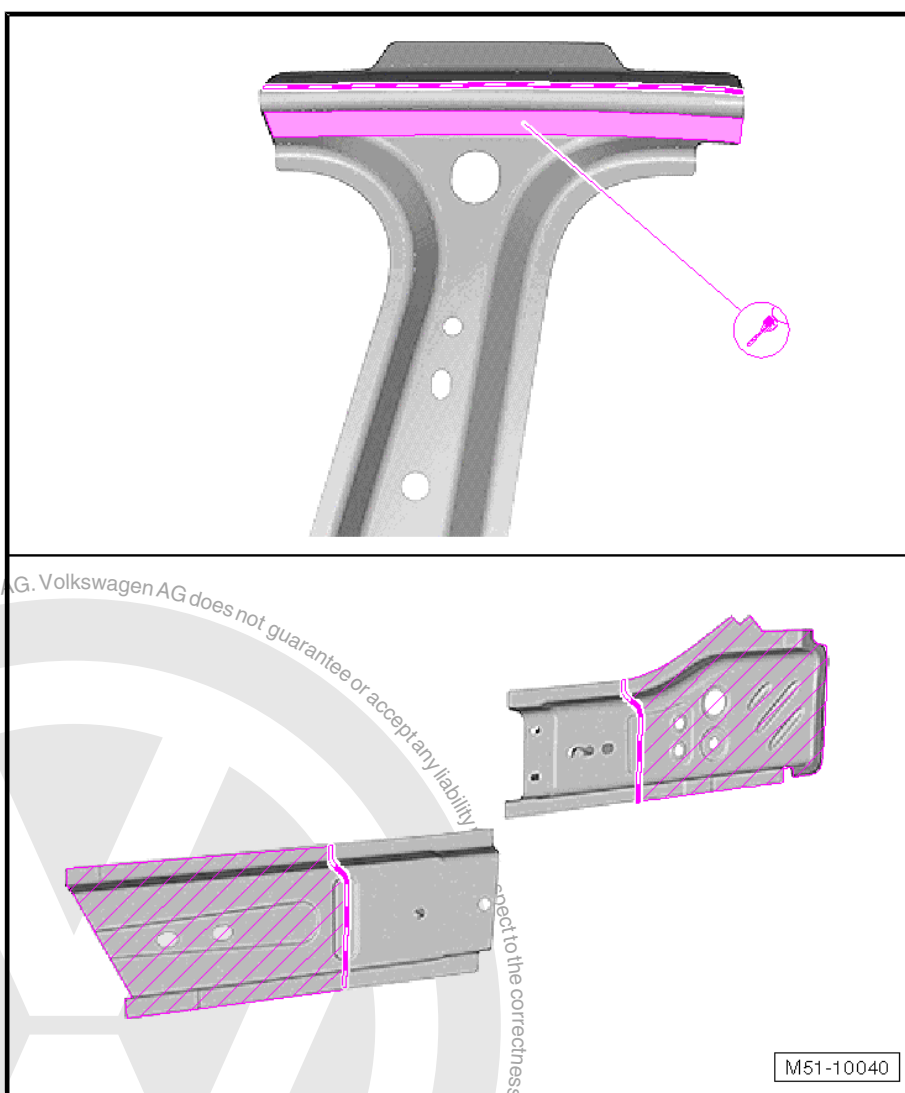


- ◆ Rear sill panel reinforcement
- ◆ 2K Body Adhesive - D 180 003 M2-



#### Note

*To drill holes for gas-shielded arc plug weld seam, use weld point drill for »BTR steels«. HSS drills are not suitable because they do not have a sufficient standing time.*

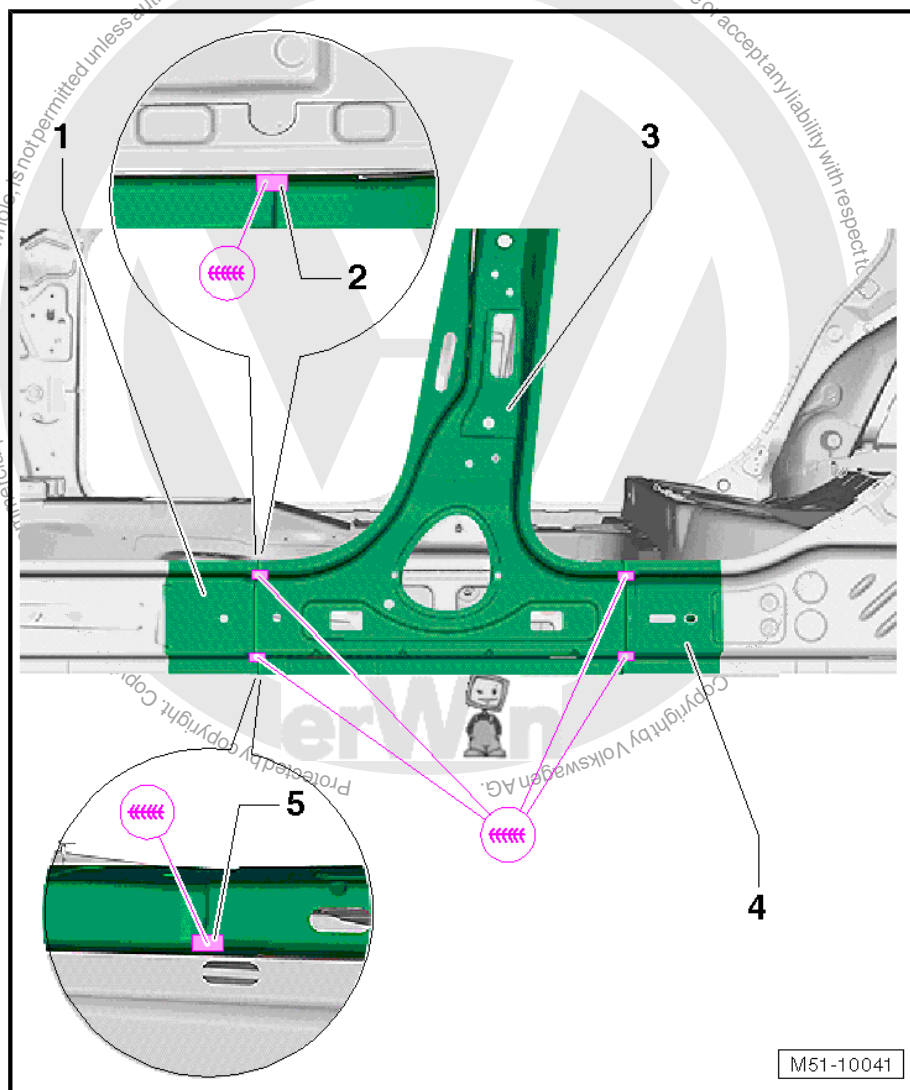


- Transfer separating cuts on to new parts and cut.
- Drill holes for gas-shielded arc plug weld seam.

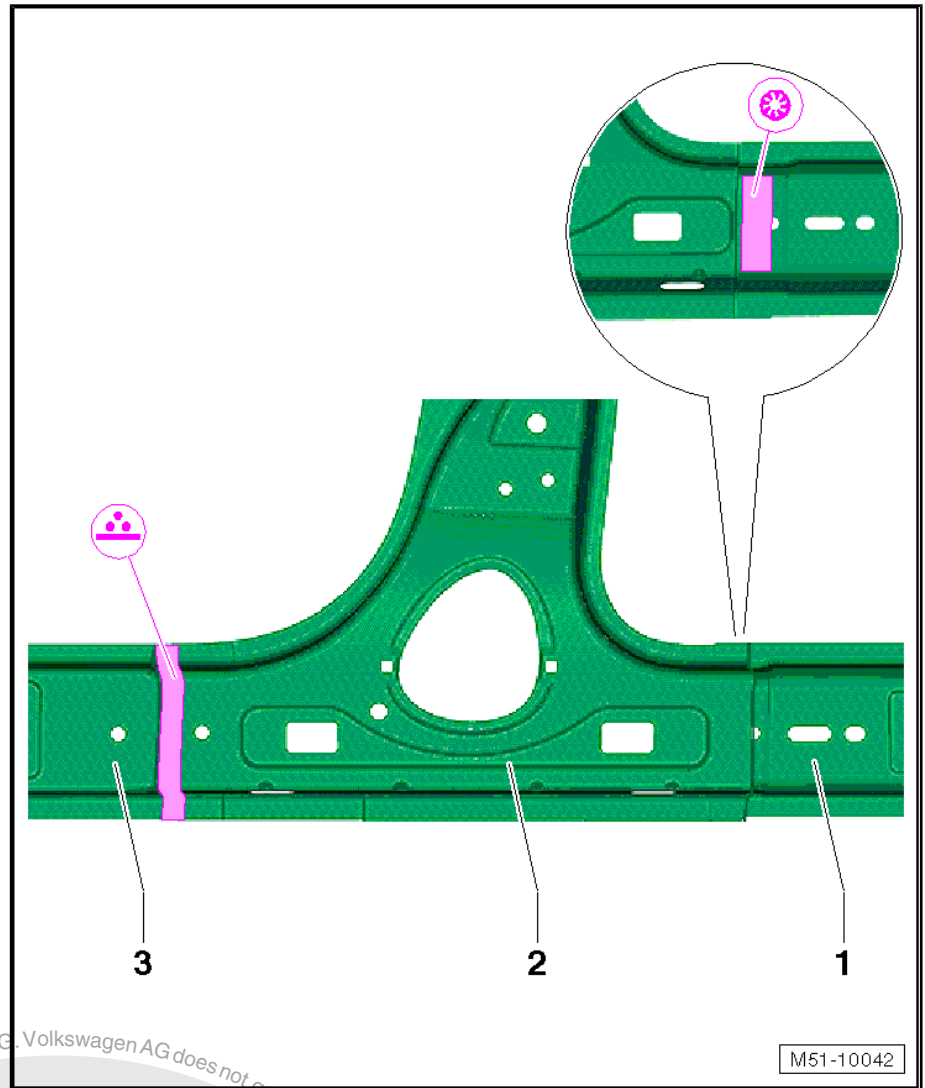


#### Note

- ◆ Sill panel reinforcements and B-pillar reinforcement must only be tack welded as depicted for upper and lower sides -magnified areas-, otherwise toughness of B-pillar reinforcement will be impaired. Also, welding on outer rounded areas weakens the construction.
- ◆ Tack welding points of front sill panel reinforcement and B-pillar reinforcement are depicted in the magnified areas. These depictions apply accordingly to the area of B-pillar reinforcement and rear sill panel reinforcement.



- Fit new parts to vehicle standing on Alignment Bracket Set and secure.
- Check fit with B-pillar.
- Tack weld front sill panel reinforcement -1- to B-pillar reinforcement -3- on upper -2- and lower side -5-, gas-shielded arc continuous weld seam (2 tack weld points max. 10 mm long).
- Tack weld rear sill panel reinforcement -4- to B-pillar reinforcement -3- on upper -2- and lower side -5-, gas-shielded arc continuous weld seam (2 tack weld points max. 10 mm long).
- Remove new parts from vehicle.



- Weld front sill panel reinforcement -3- to B-pillar reinforcement -2-, straight-line spot weld seam (2 straight-line spot weld seams each on upper and lower side and 8 straight-line spot weld seams in double row on outer side).
- Weld rear sill panel reinforcement -1- to B-pillar reinforcement -2- from inner side, gas-shielded arc plug weld seam.

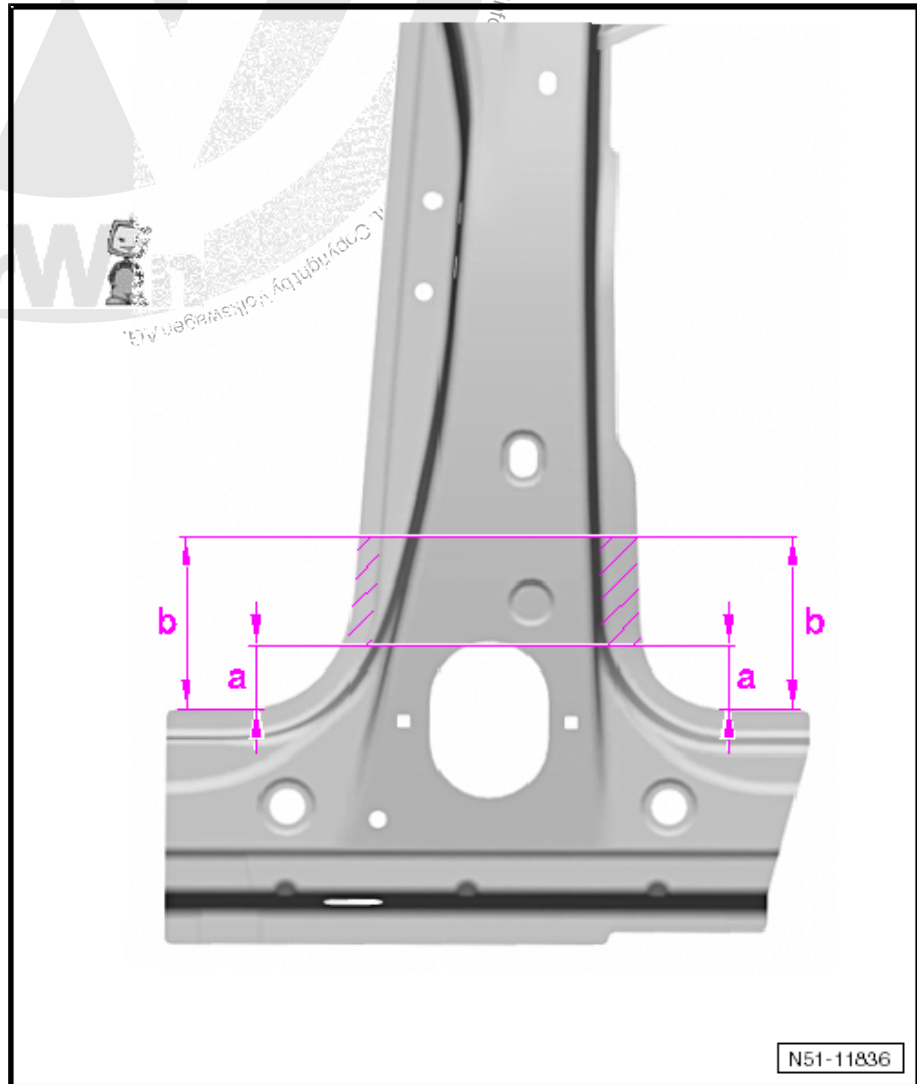


### 9.3.2 Marking of Areas in Which Welding Must Not Be Performed



#### Note

- ◆ For reasons of safety »crash safety«, areas marked in the illustration must not be welded when welding in B-pillar reinforcement.
- ◆ It is important to maintain the indicated dimensions.
- ◆ Before welding in outer B-pillar, dimensions must be transferred on to outer B-pillar.



- Mark the areas in which welding must not be performed.

### 9.3.3 Molded Foam Parts

Observe Repair Notes.

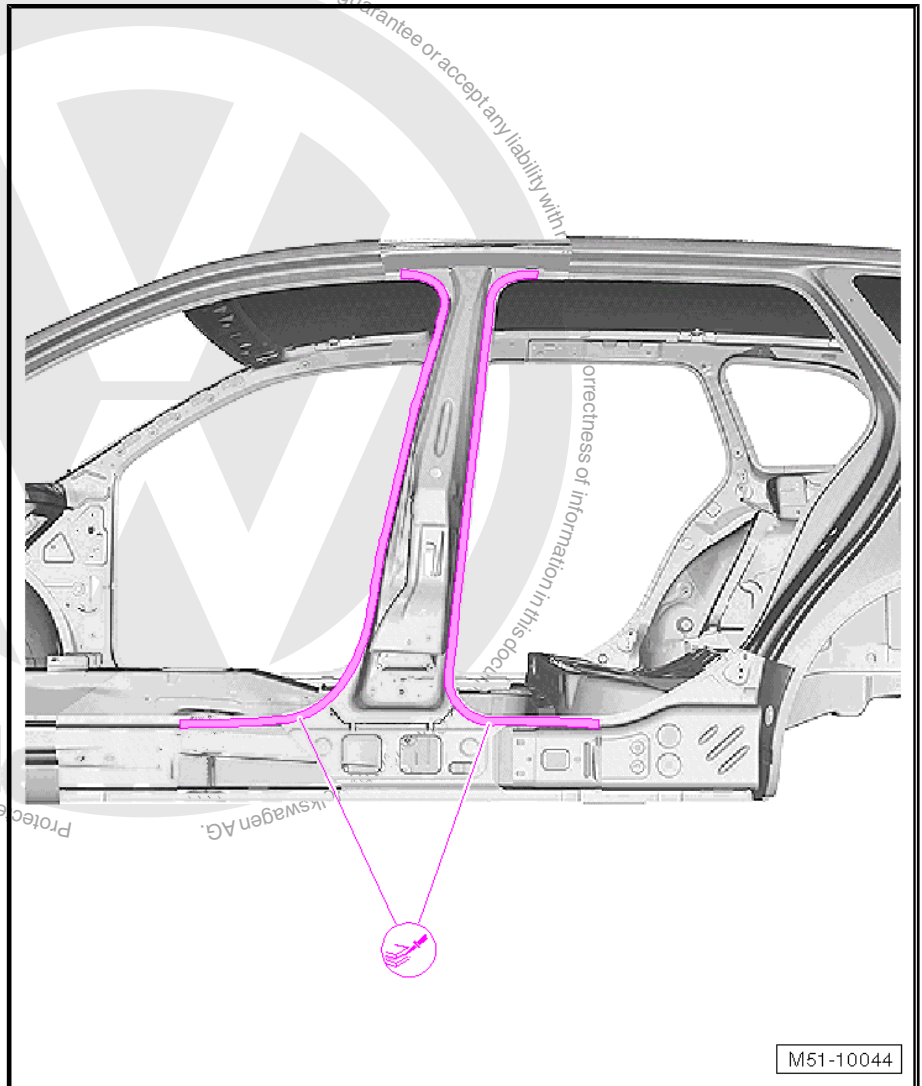
Molded foam part, refer to ⇒ General Information; Body Repairs,  
Body Collision Repair



### 9.3.4 Welding

**i** Note

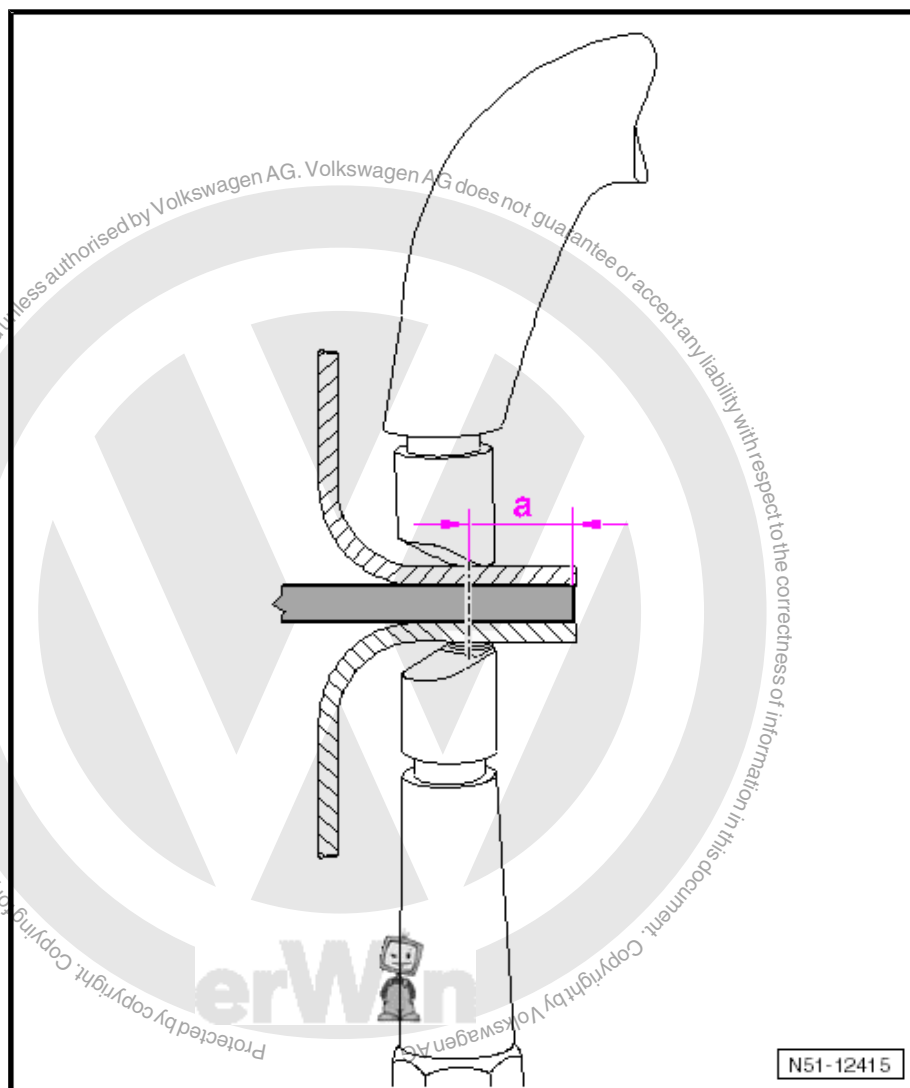
*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*



- Apply 2K Body Adhesive - D 180 003 M2- in the area near the adhesive applied at the factory (1 bead, diameter 3.5 mm).

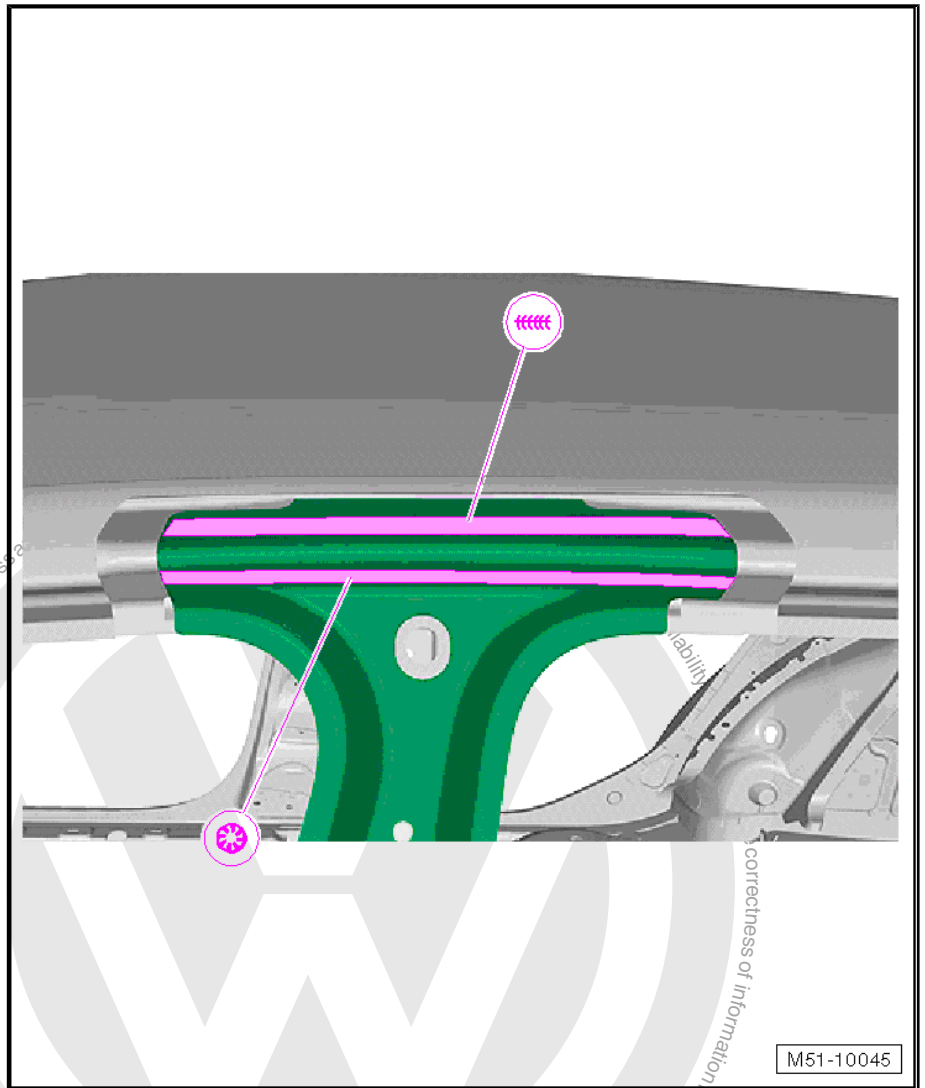
**i** Note

- ◆ *High-strength/highest strength hot formed is used on the A-, B- and C-pillars. The welding flanges in these areas are approximately 13 mm wide.*
- ◆ *If the weld points are placed on the edge of the hot-formed steel panels, the high temperatures will change the structure of the steel and this will negatively affect the crash worthiness.*

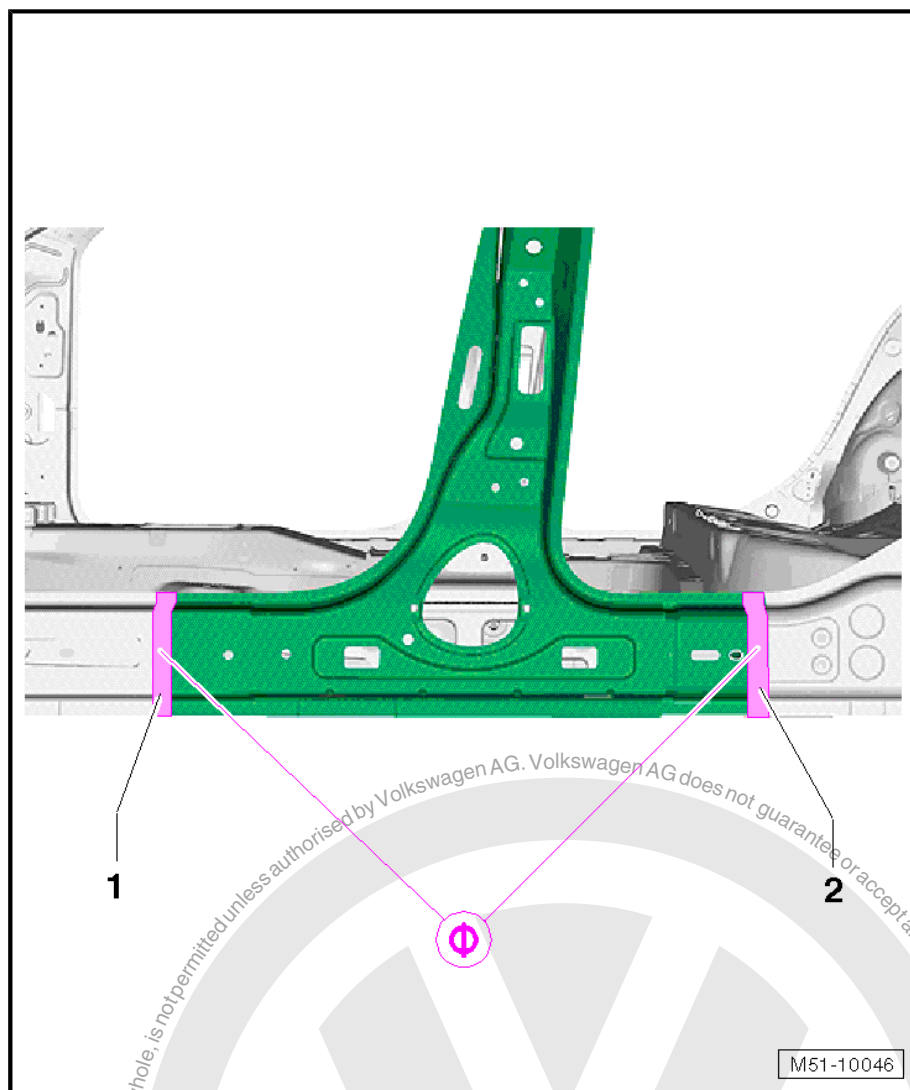


The weld points must be made as far as possible to the inside.

- Fit new part to vehicle standing on Alignment Bracket Set and secure.
- Check fit with B-pillar and attachments.



- At top, weld separating cut of B-pillar reinforcement, gas-shielded arc continuous weld seam.
- Weld in upper B-pillar reinforcement, gas-shielded arc plug weld seam.



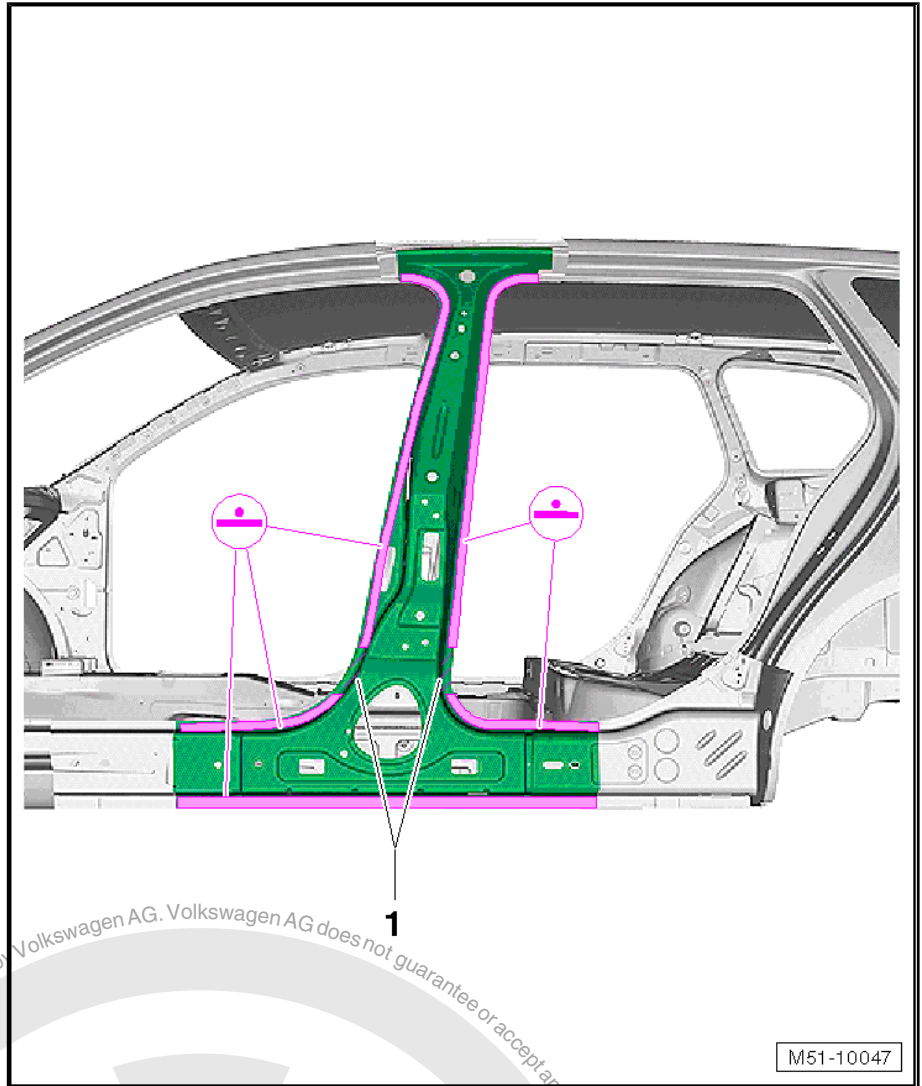
- Weld front -1- and rear -2- separating cuts, SG stepped seam.



**Note**

*Pay attention to areas -1- in which welding must not be performed.*





- Reproduce remaining joint, straight-line spot weld seam.
- Install the outer B-pillar, refer to [⇒ "8.3 Installing", page 156](#) .



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## 10 Sill Panel, Removing and Installing

⇒ "10.1 Tools", page 181

⇒ "10.2 Removing", page 181

⇒ "10.3 Installing", page 183 d



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

⇒ General Information; Body Repairs, Body Collision Repair

### 1 - Separation Cut on the Pillars

### 2 - Molded Foam Parts



### Note

*Foam residue must be removed as much as possible before sanding work.*

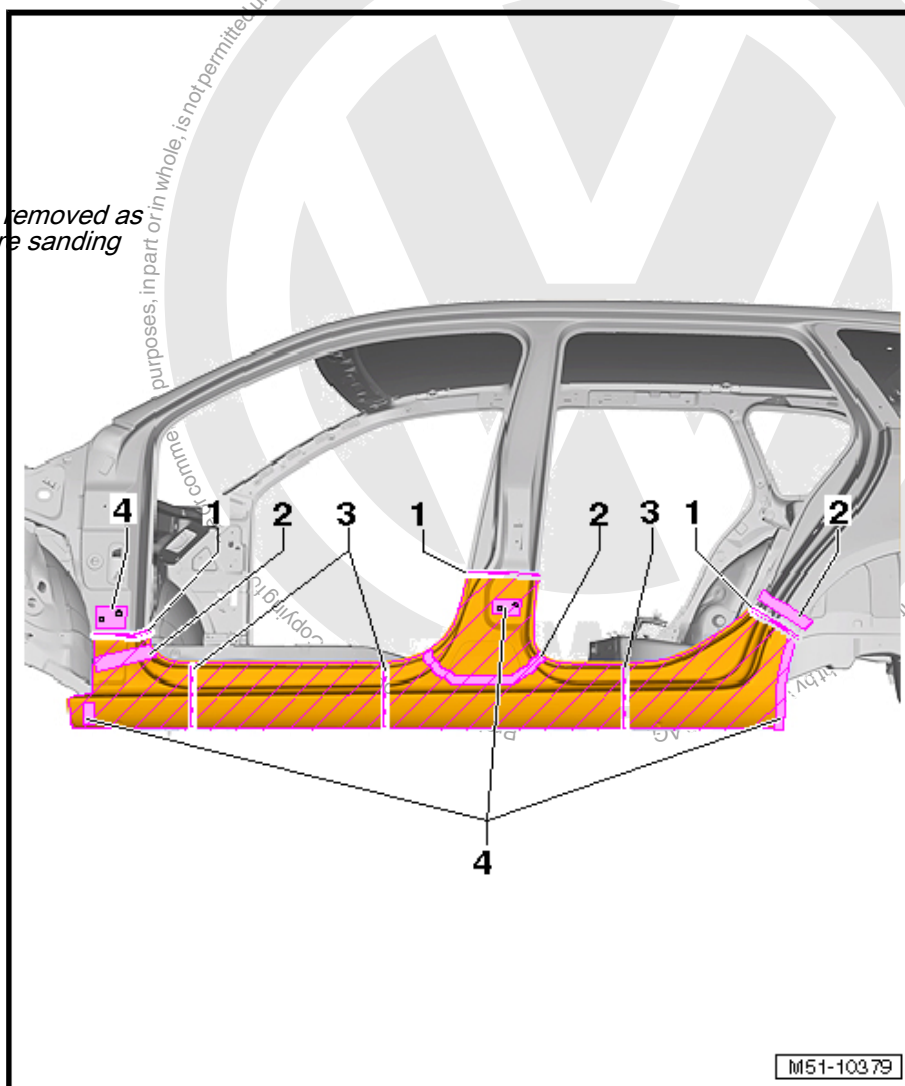
### 3 - Separating Cut

Partial renewal

*A partial replacement on the sill panel is possible with these separating cuts.*

*Pay close attention to the replacement part separation cut for the sub-part when performing a partial replacement.*

### 4 - Glued Area



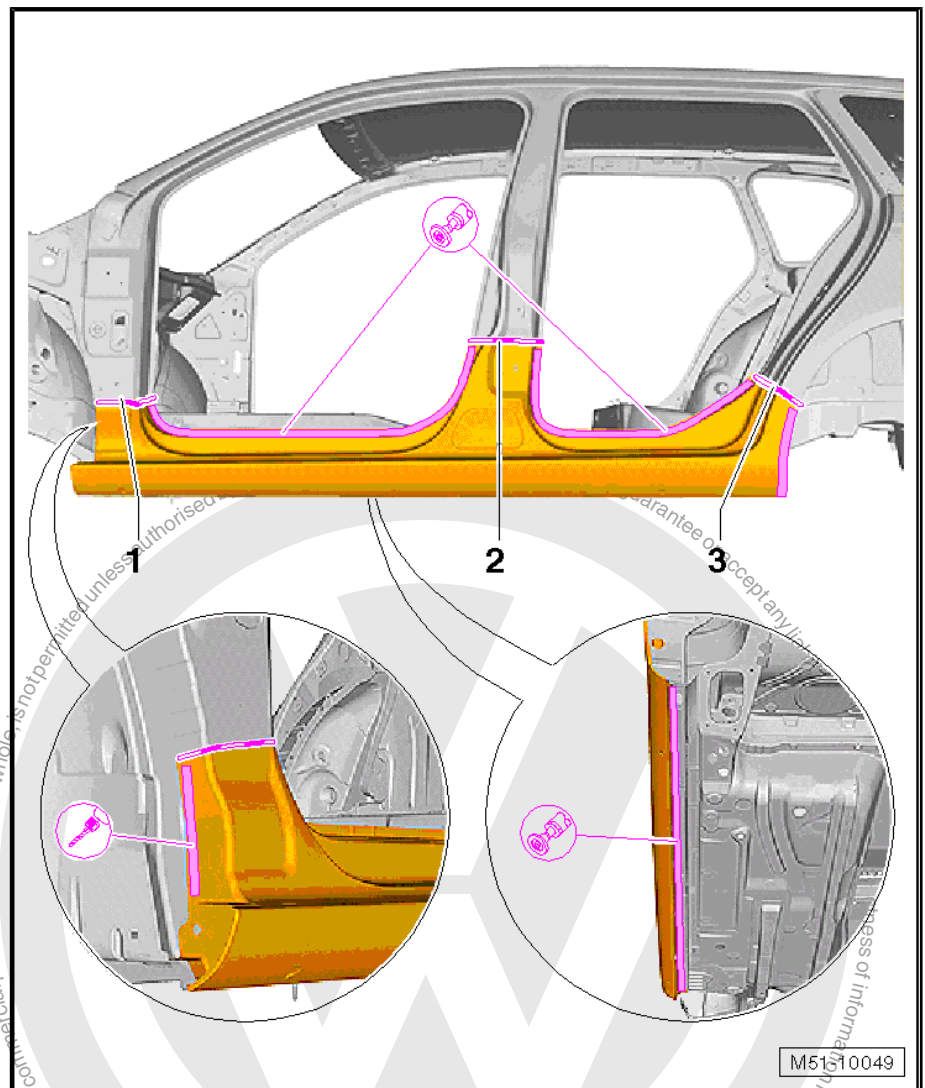


## 10.1 Tools

### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

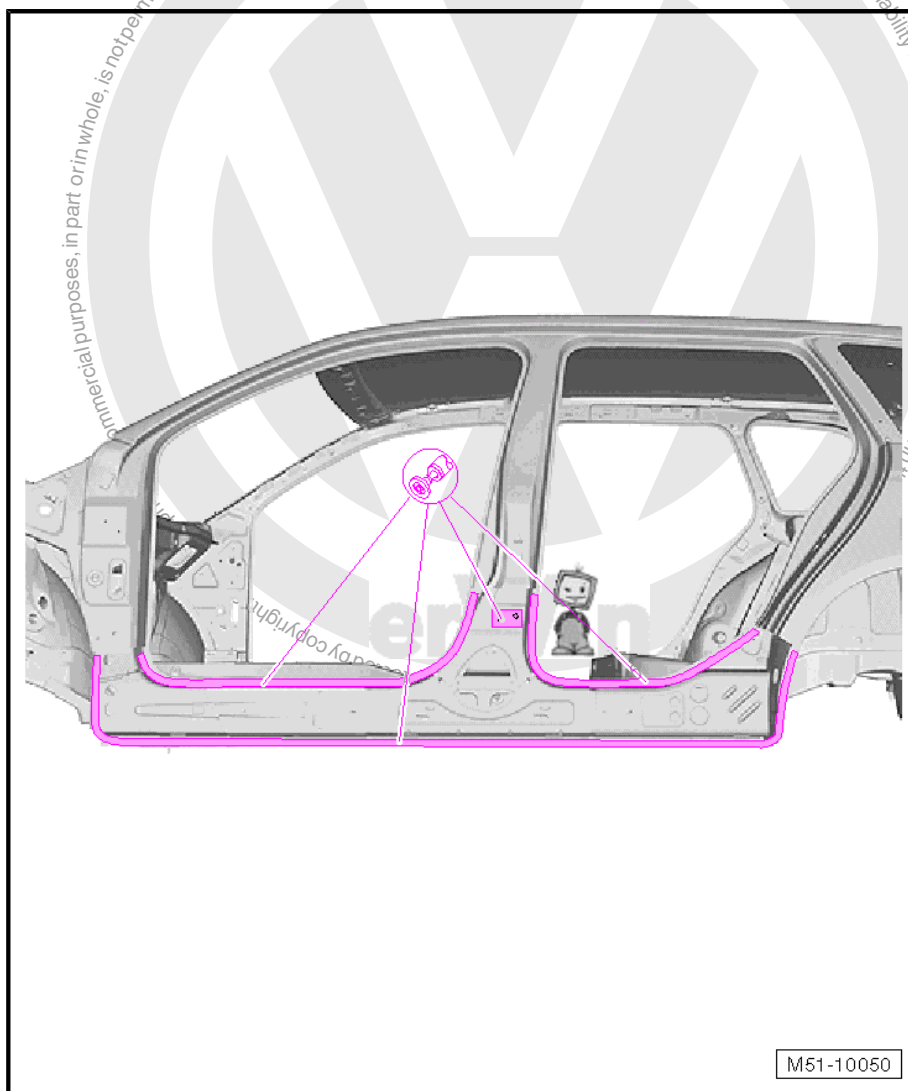
## 10.2 Removing



- Perform separating cut -1- on A-pillar according to degree of damage.
- Perform separating cut -2- above mount for lower door hinge of rear door.
- Perform separating cut -3-.
- Pay attention to the Replacement Part separation cut when making the separation cuts.



- Grind outer edge on wheel housing.
- Separate original joint.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.
- Clean flanged area on wheel housing (it must be free of dust and grease).



## 10.3 Installing

⇒ ["10.3.1 Preparing New Parts", page 184](#)

⇒ ["10.3.2 Molded Foam Parts", page 185](#)

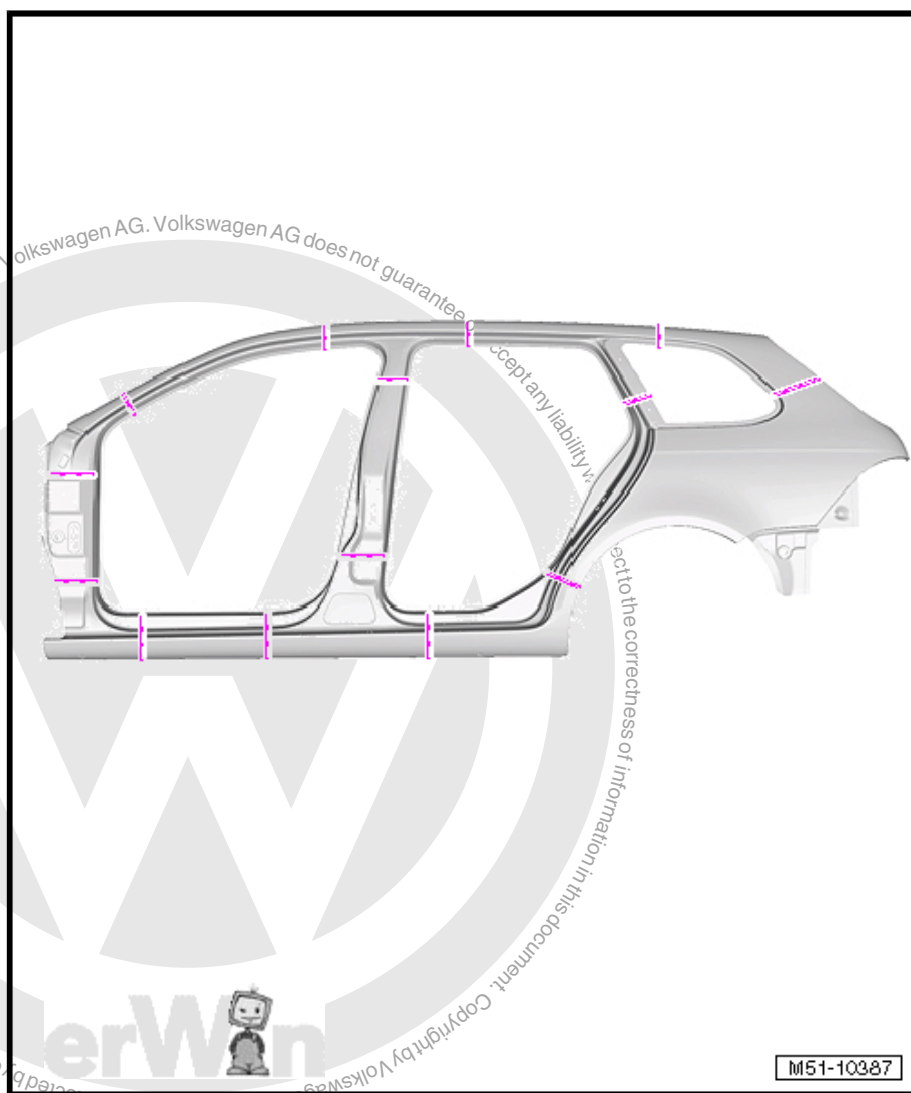
⇒ ["10.3.3 Marking Areas in Which Welding Must Not Be Performed", page 186](#)

⇒ ["10.3.4 Welding", page 187](#)



### Note

*When using different types of steel and materials of different strengths, one of the special tools listed are required to perform repair work correctly, refer to ⇒ ["10.1 Tools", page 181](#).*



### Note

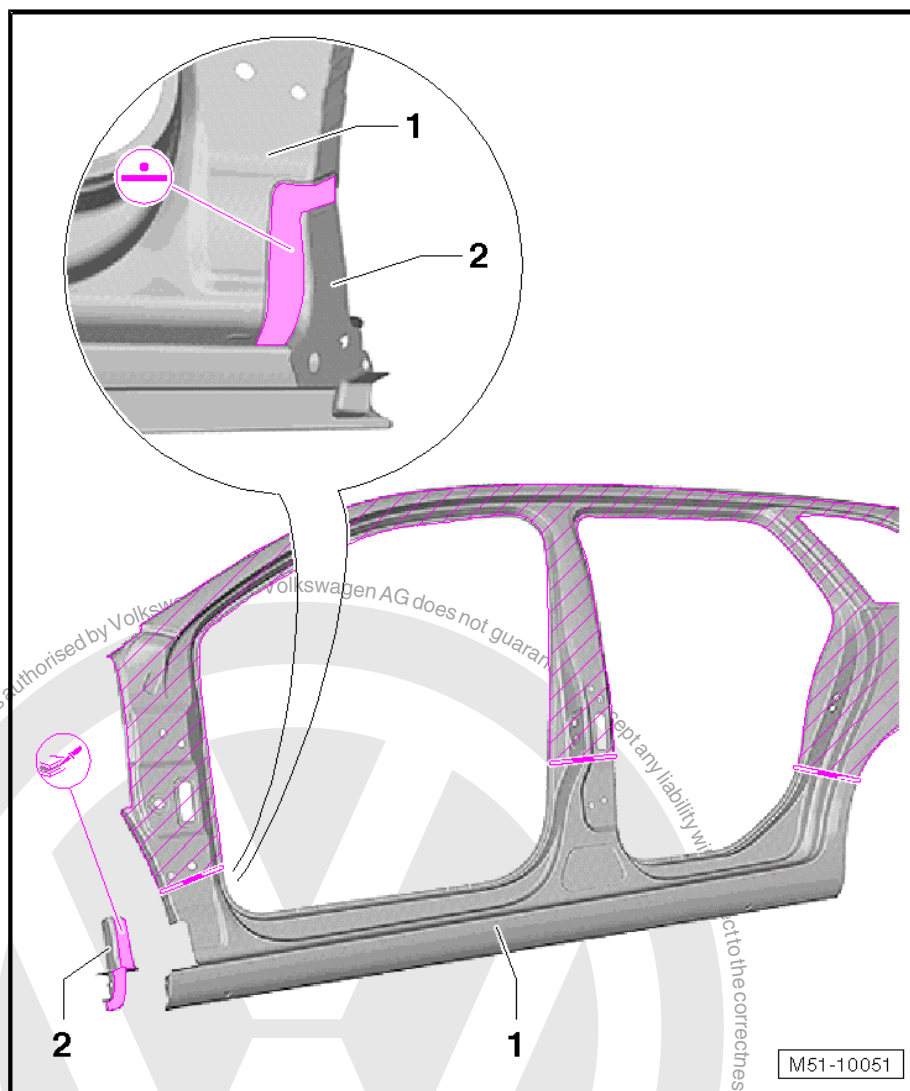
*MIG soldered seams/gas-shielded arc continuous weld seam are permitted on the separating cuts shown in the illustration.*



### 10.3.1 Preparing New Parts

#### Replacement Part

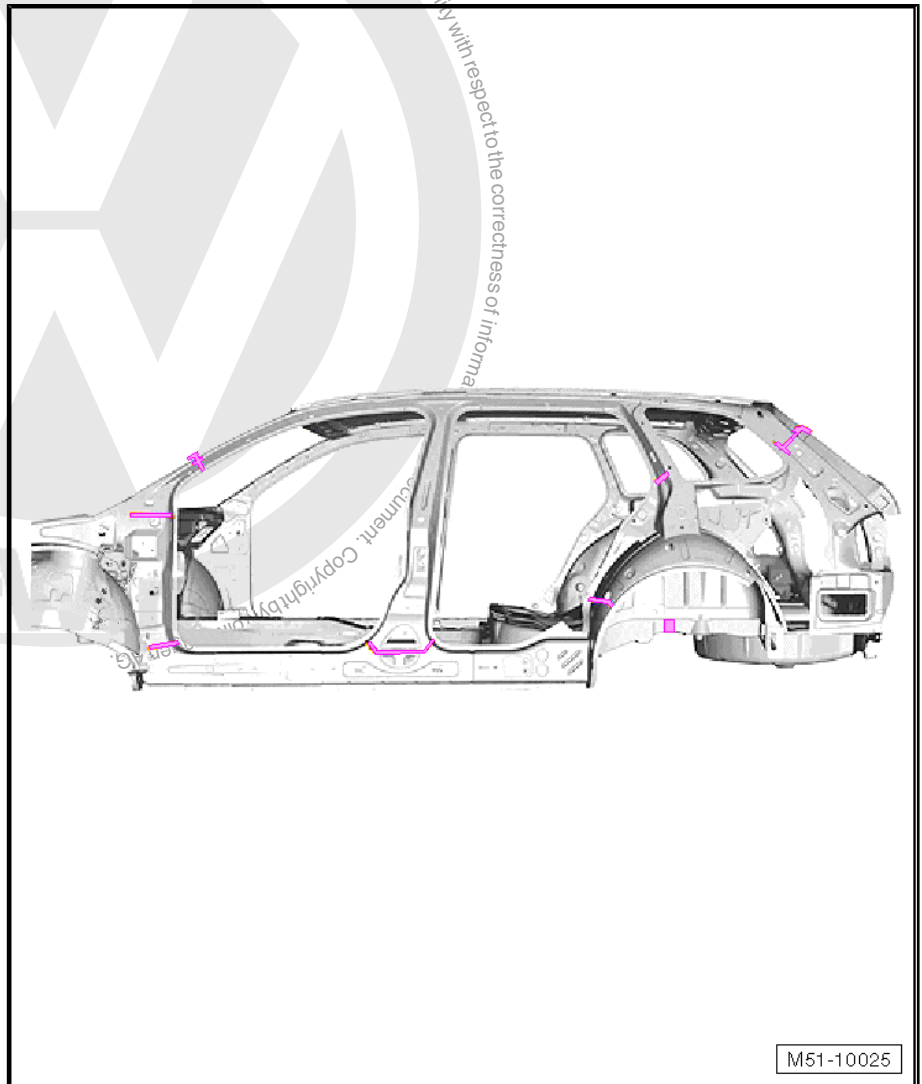
- ◆ Side panel or sub-part
- ◆ Molded Foam Part
- ◆ 2K Body Adhesive - D 180 003 M2-



- Transfer separating cuts on to new part and cut.
- Apply 2K Body Adhesive - D 180 003 M2- in the adhesion area for the sill panel end plate -2-, fit it into the sill panel -1- and weld it using a straight-line spot weld seam.



### 10.3.2 Molded Foam Parts



#### Observe Repair Notes.

Molded foam part, refer to ⇒ General Information; Body Repairs,  
Body Collision Repair



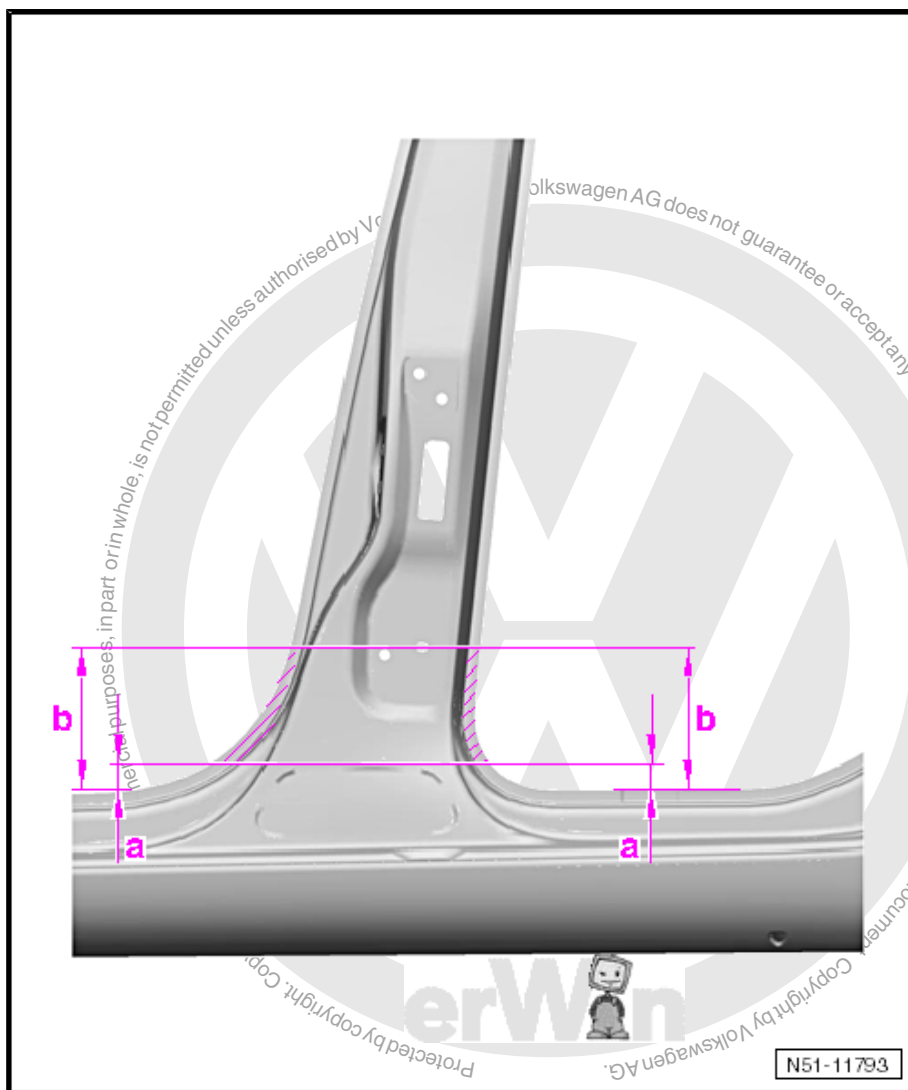


### 10.3.3 Marking Areas in Which Welding Must Not Be Performed



#### Note

- ♦ For reasons of safety »crash safety«, areas marked in the illustration must not be welded when welding in sill panel.
- ♦ It is important to maintain the indicated dimensions.



- Mark the areas on outer sill panel in which welding must not be performed.



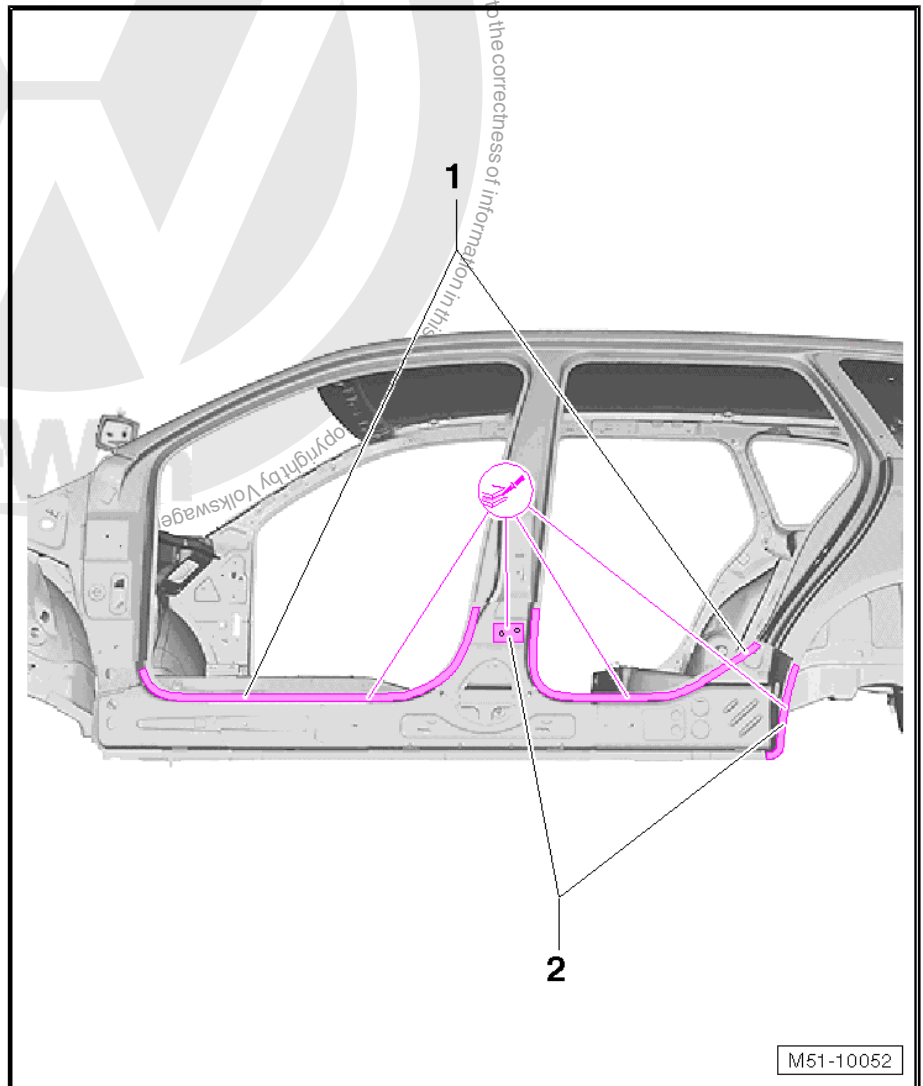


## 10.3.4 Welding



### Note

- ◆ The holes for the door hinges in the adhesion area -2- must remain free of adhesive.
- ◆ New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.

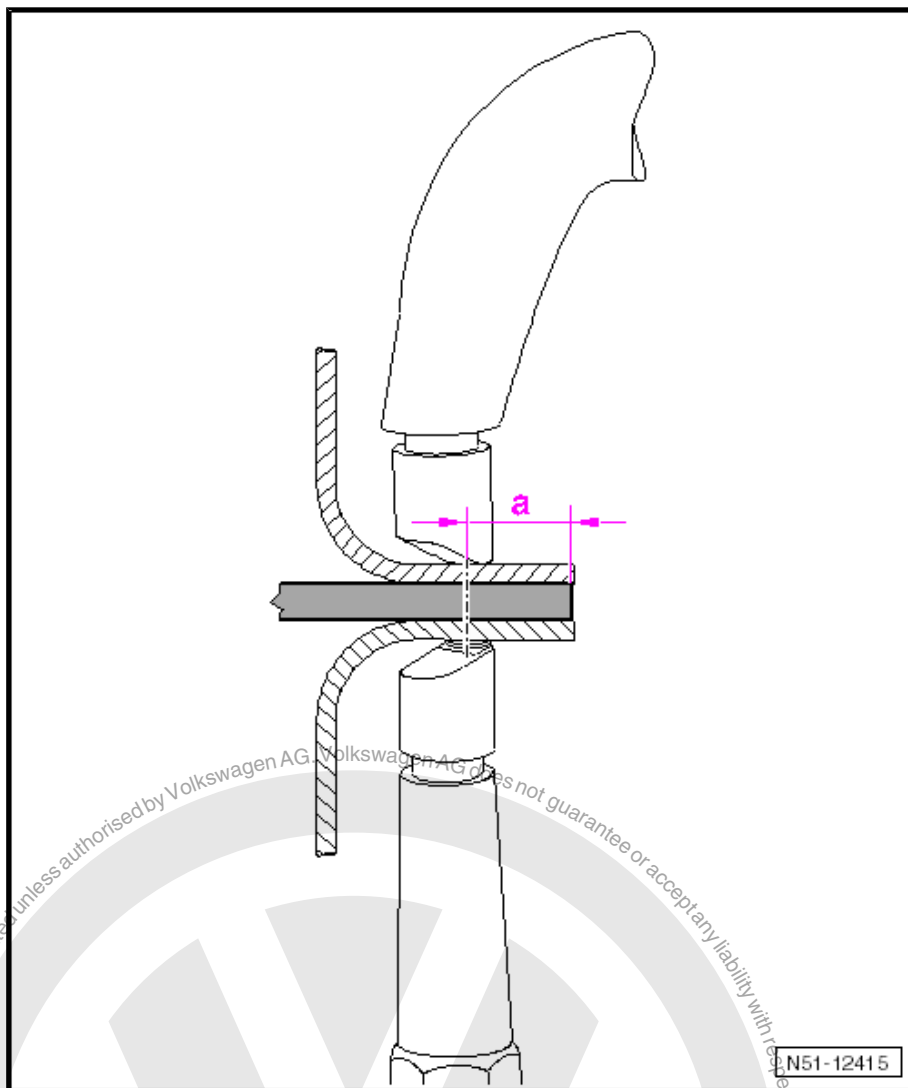


- Apply 2K Body Adhesive - D 180 003 M2- in area -1- (1 bead with 3.5 mm diameter).
- Apply 2K Body Adhesive - D 180 003 M2- in area -2- (flat layer of multiple beads with a 3.5 mm diameter).



### Note

- ◆ High-strength/highest strength hot formed is used on the A-, B- and C-pillars. The welding flanges in these areas are approximately 13 mm wide.
- ◆ If the weld points are placed on the edge of the hot-formed steel panels, the high temperatures will change the structure of the steel and this will negatively affect the crash worthiness.



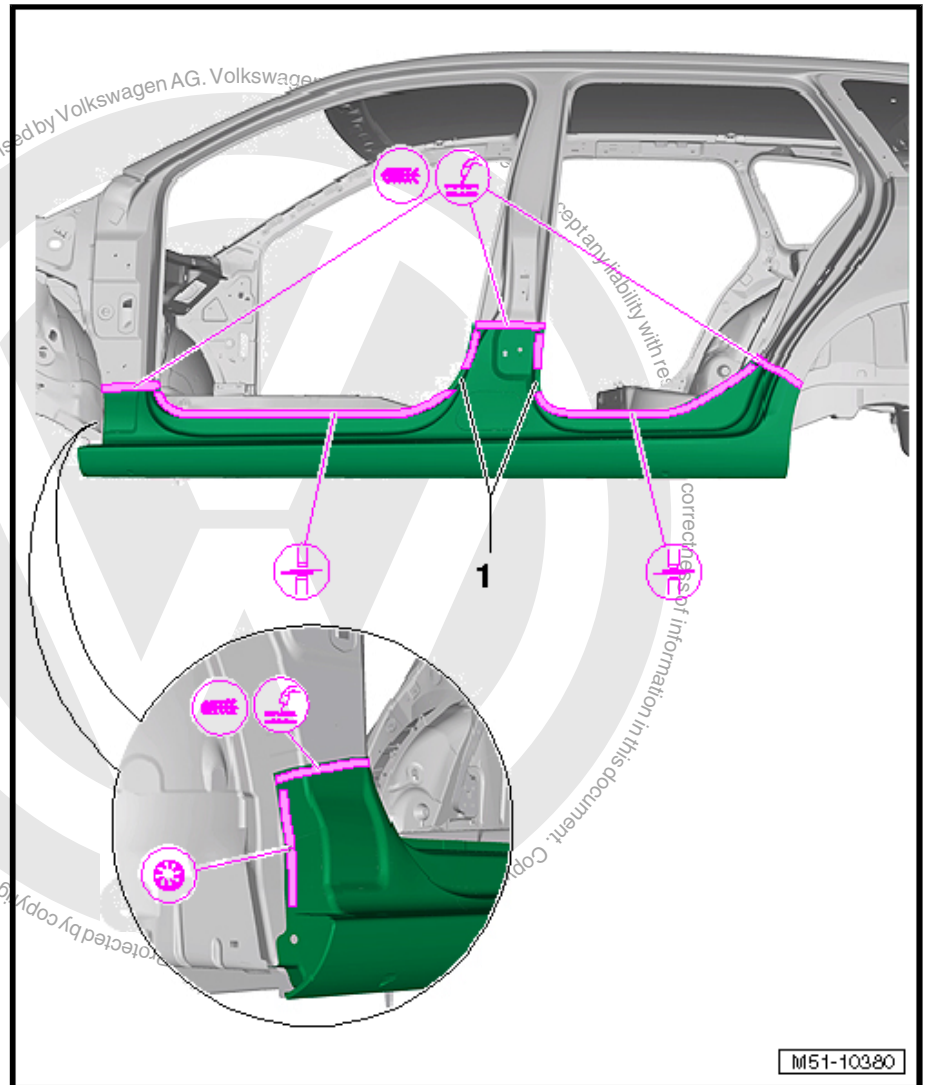
The weld points must be made as far as possible to the inside.

- Fit new part to vehicle standing on Alignment Bracket Set and secure.
- Check fit with attaching parts.

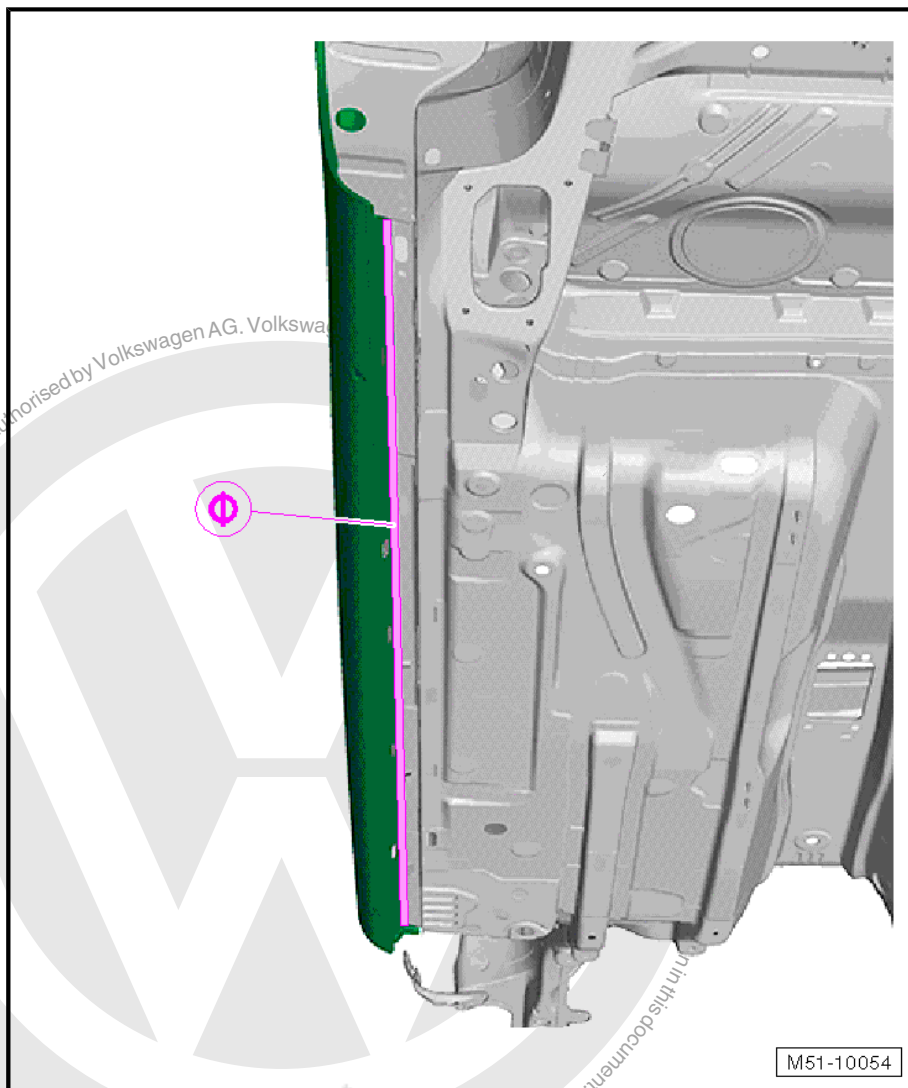


**Note**

*Pay attention to areas -1- in which welding must not be performed.*



- Reproduce the original connection, Straight-line spot weld seam inverter.
- Weld the separation cuts, either with MIG soldered seam or a gas-shielded arc continuous weld seam.
- Weld end plate and front sill panel to A-pillar reinforcement, gas-shielded arc plug weld seam.



- Create the joint for the sill panel reinforcement, optional MIG soldered seam/gas-shielded arc continuous weld seam (staggered) permitted.
- Flange the wheel arch flange.
- Wipe off escaping adhesive and seal the wheel arch.



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## 11 Front Sill Panel Reinforcement, Replacing

⇒ "11.1 Tools", page 192

⇒ "11.2 Removing", page 192

⇒ "11.3 Installing", page 193



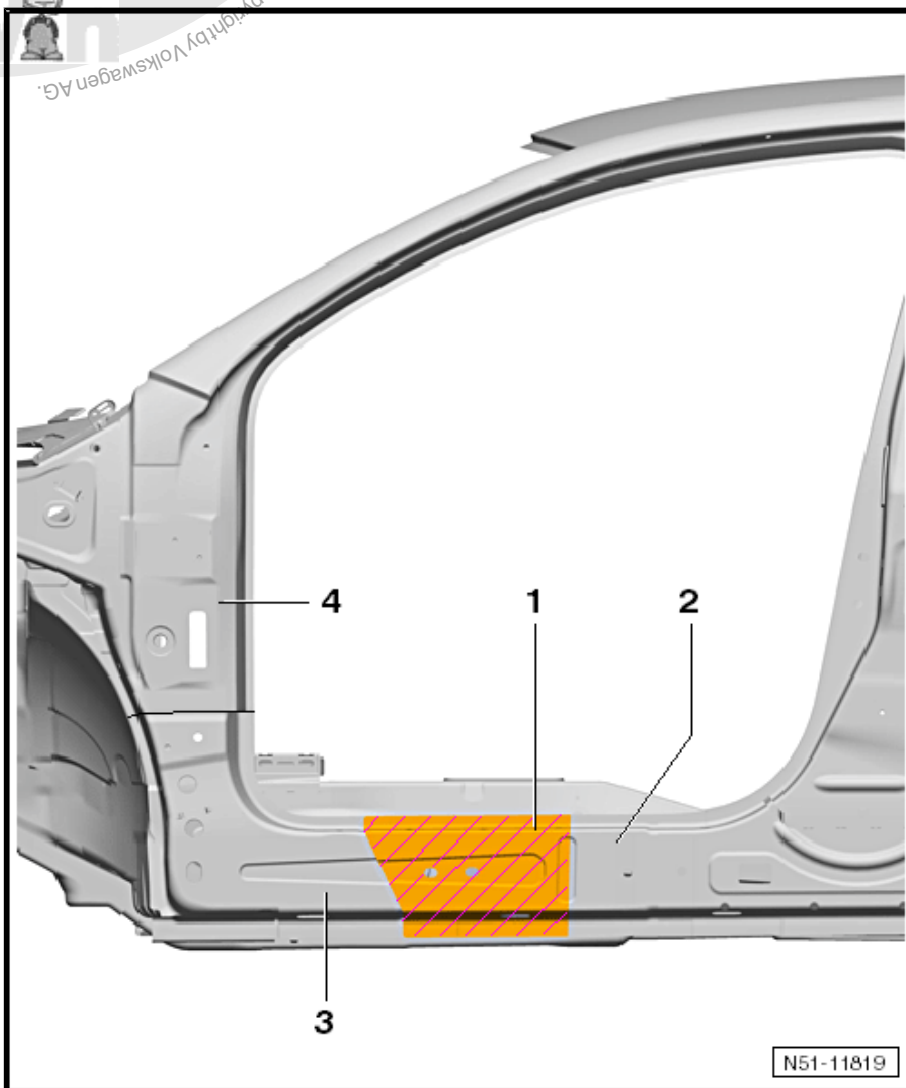
### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

• Sill panel already removed  
⇒ "10 Sill Panel, Removing and Installing", page 180

- 1 - Sill Panel Reinforcement
- 2 - Remainder of the Sill Panel Reinforcement (not removed)
- 3 - A-Pillar Reinforcement
- 4 - Outer A-Pillar





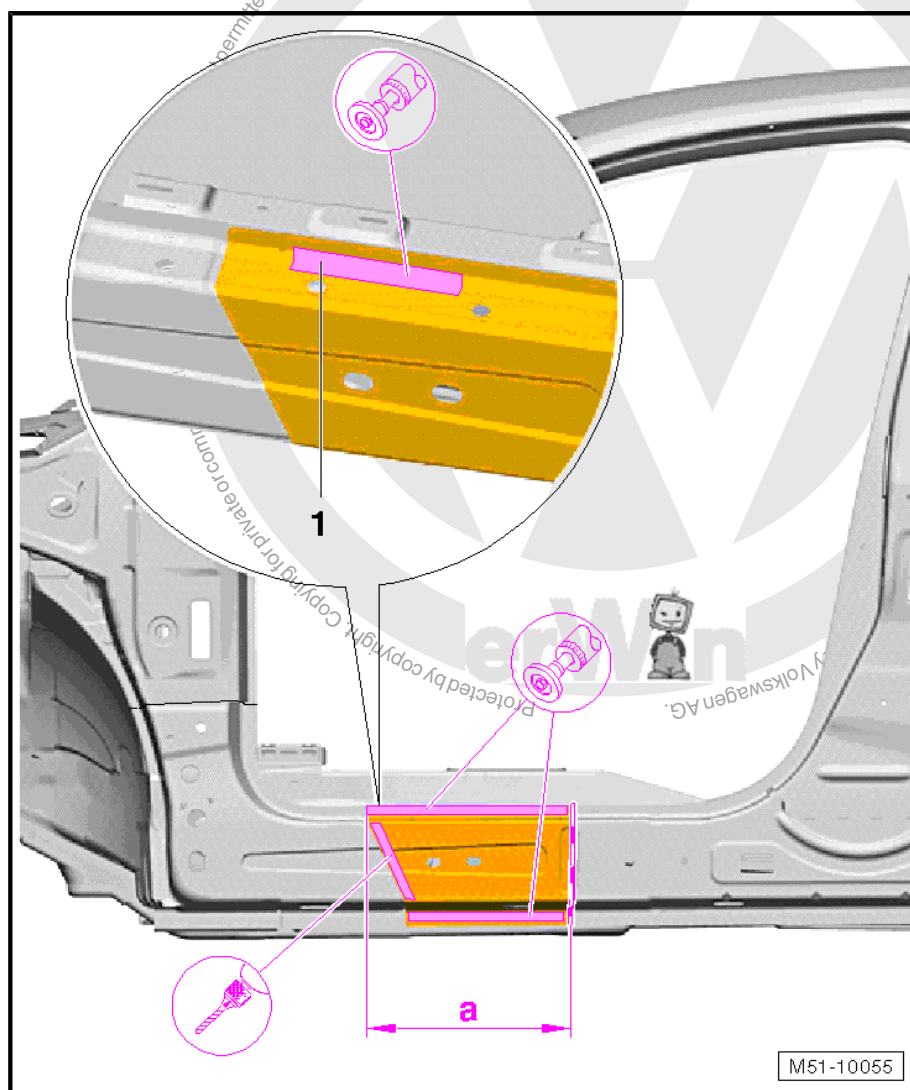
## 11.1 Tools



### Note

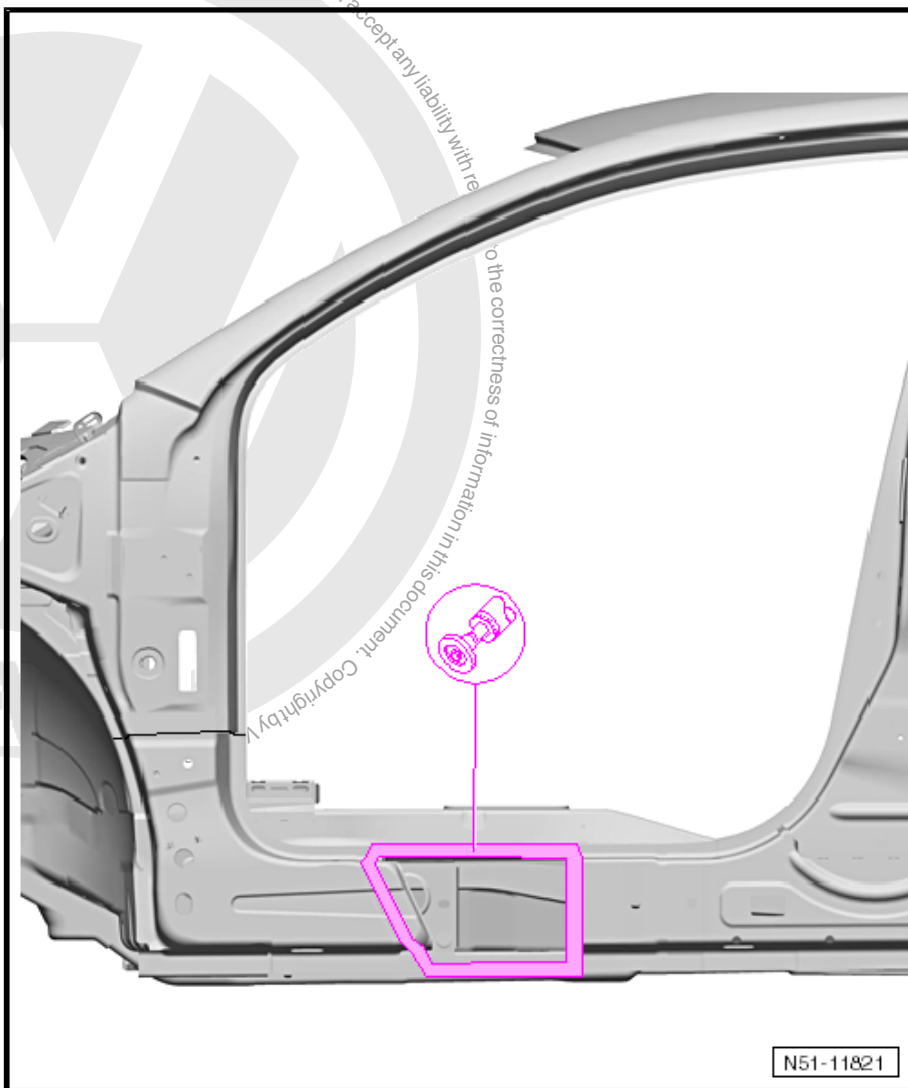
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 11.2 Removing



- Make the separation cut according to dimension -a- (in front of the partition plate).
- Separate the original joint.
- Open the joint for the fillet plate inside the sill panel -1- from the top.

Dimension -a- = 300 mm



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 11.3 Installing

⇒ [“11.3.1 Preparing New Parts”, page 194](#)

⇒ [“11.3.2 Welding”, page 194](#)



#### Note

*When using different types of steel and materials of different strengths, one of the special tools listed are required to perform repair work correctly, refer to ⇒ [“11.1 Tools”, page 192](#).*

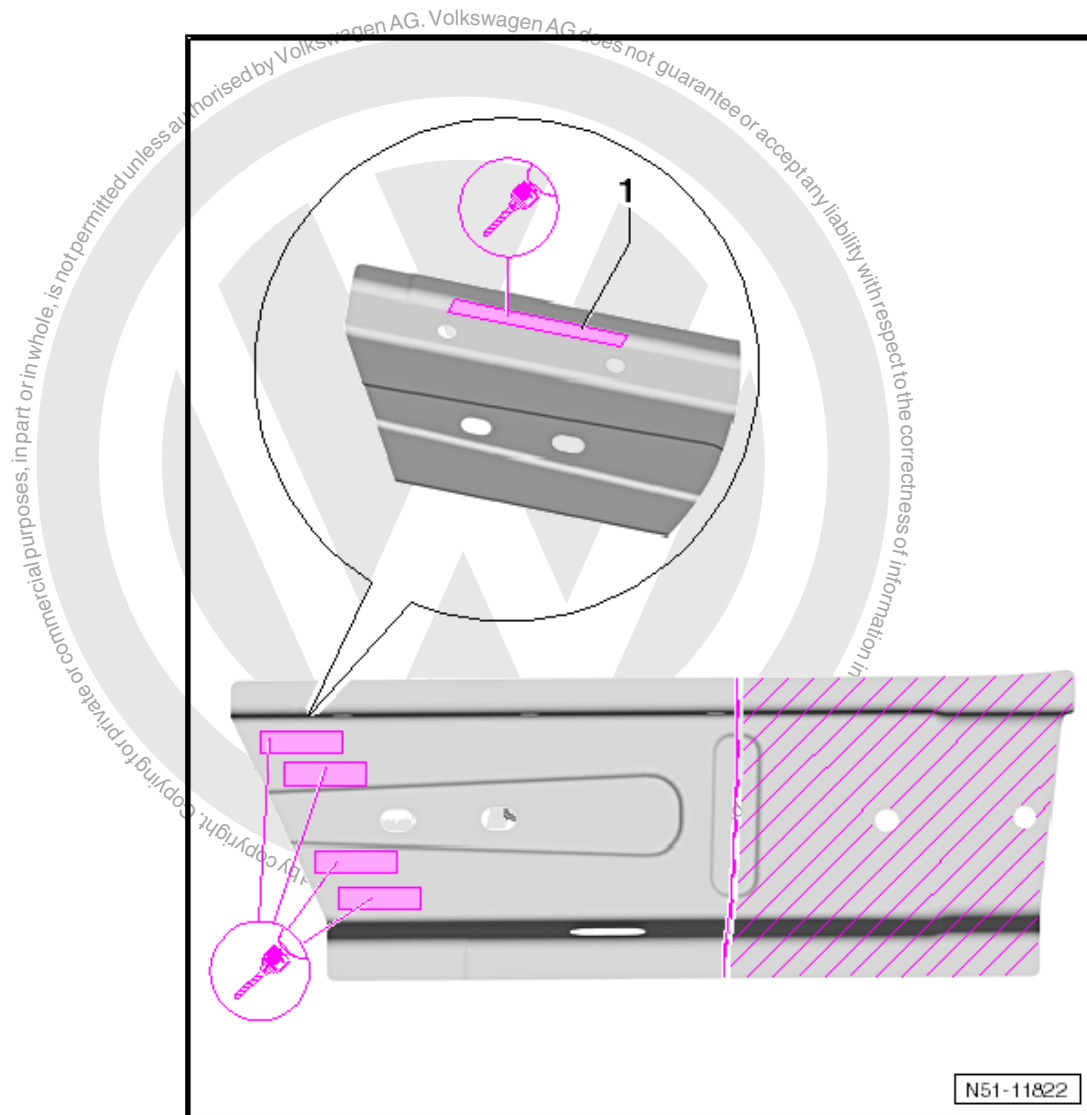




### 11.3.1 Preparing New Parts

#### Replacement Part

- ◆ Front side member reinforcement (Replacement Part identification: front side member fillet plate)



- Transfer separating cut onto new part and cut to shape.
- Drill 10 mm diameter holes for the gas-shielded arc plug weld seam according to the welds made at the factory.
- Drill 10 mm diameter hoses for the gas-shielded arc plug weld seam from the top -1-.

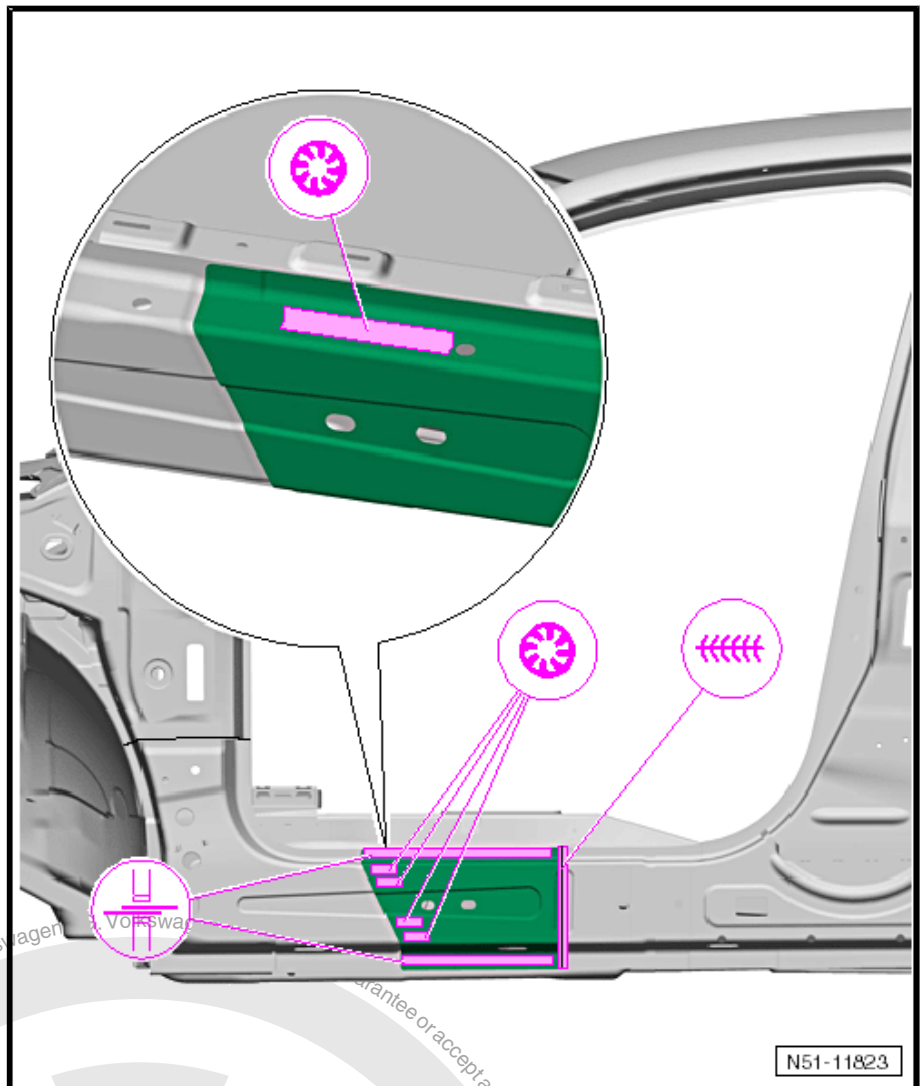
### 11.3.2 Welding

- Fit new part to vehicle standing on Straightening Bracket Set and secure.





- Check fit with neighboring components.



- Weld original joint, SG plug weld seam and RP spot weld seam.
- Weld connection to fillet plate, gas-shielded arc plug weld seam.
- Weld the separating cut using a gas-shielded arc continuous weld seam.
- Install the sill panel, refer to [⇒ "10.3 Installing", page 183](#).



RO: 51 49 55 52

## 12 Rear Sill Panel Reinforcement, Removing and Installing

⇒ ["12.1 Tools", page 197](#)

⇒ ["12.2 Removing", page 197](#)

⇒ ["12.3 Installing", page 198](#)



### WARNING

*Follow all safety precautions.*

⇒ General Information; Body Repairs, Body Collision Repair

- Sill panel already removed, refer to  
⇒ ["10 Sill Panel, Removing and Installing", page 180](#)

1 - Rear Sill Panel Reinforcement

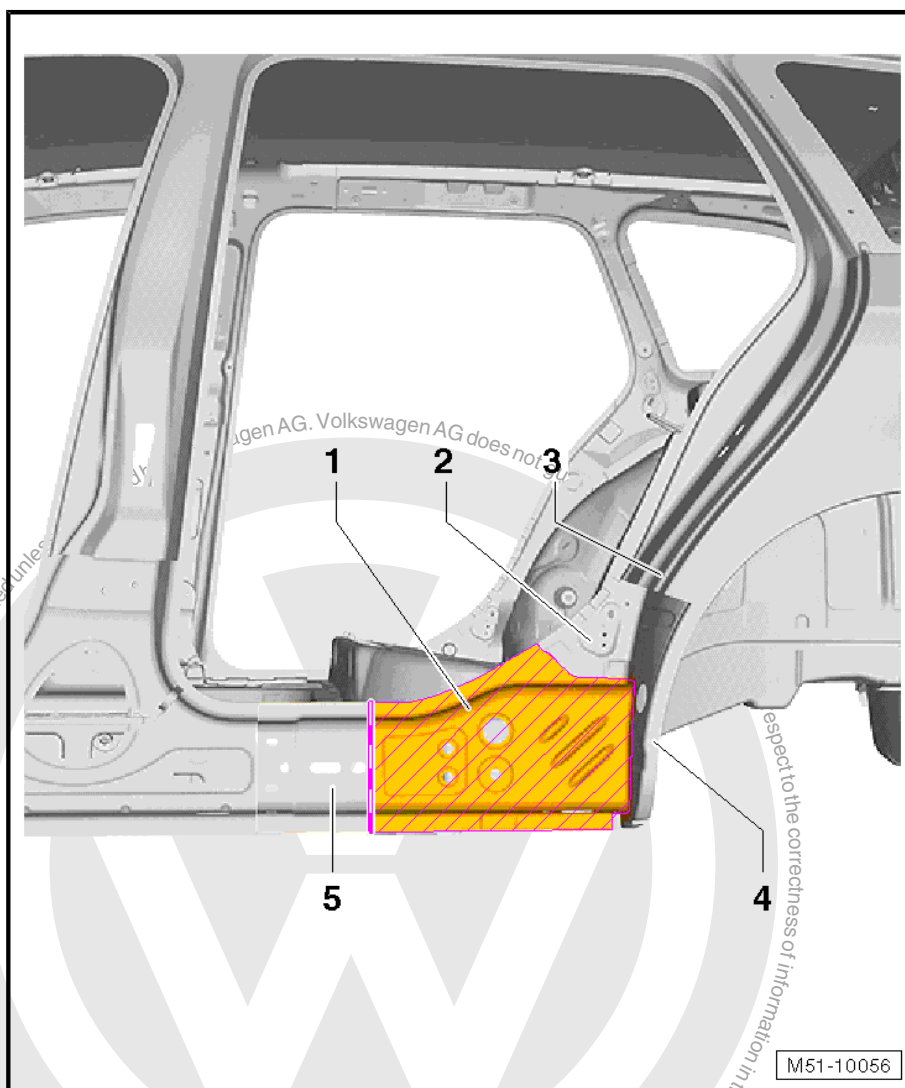
2 - Inner Side Panel

3 - Outer Side Panel

4 - Outer Wheel Housing Liner

5 - Sill Panel Rear Reinforcement (Front Part)

☐ is not removed





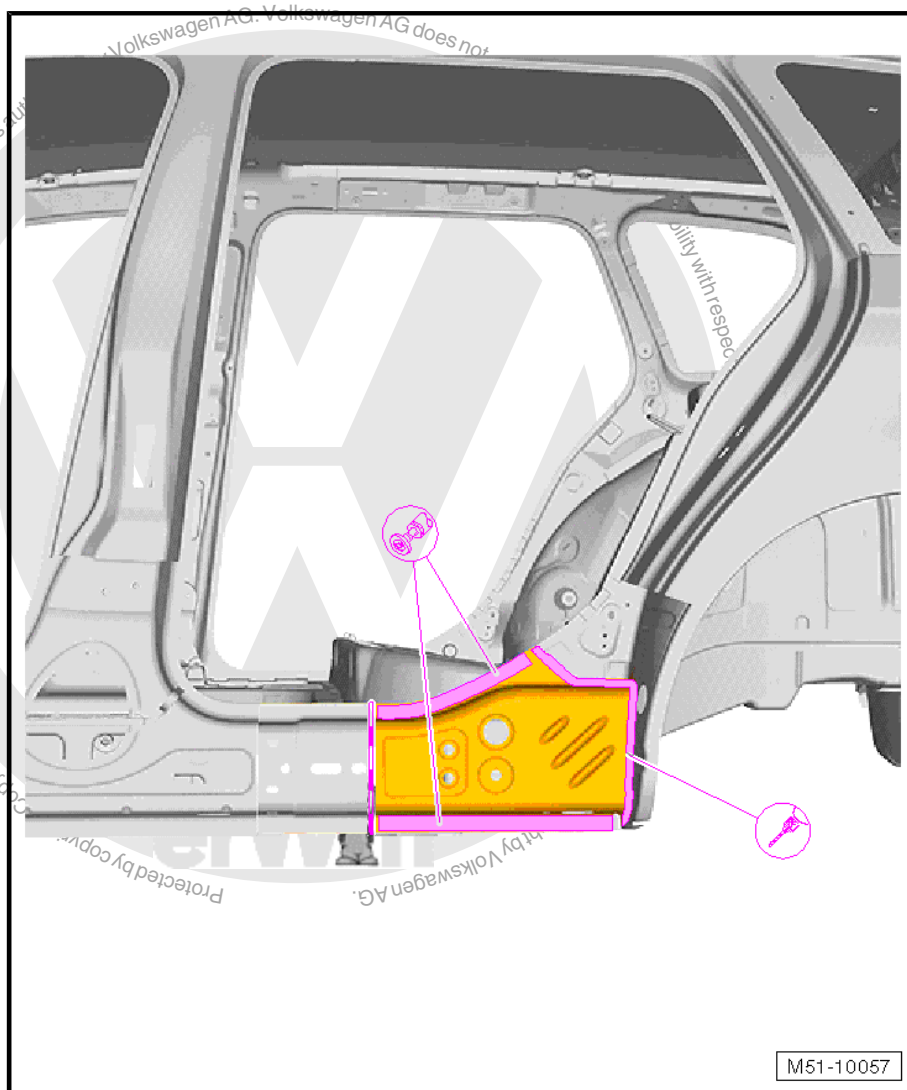
## 12.1 Tools



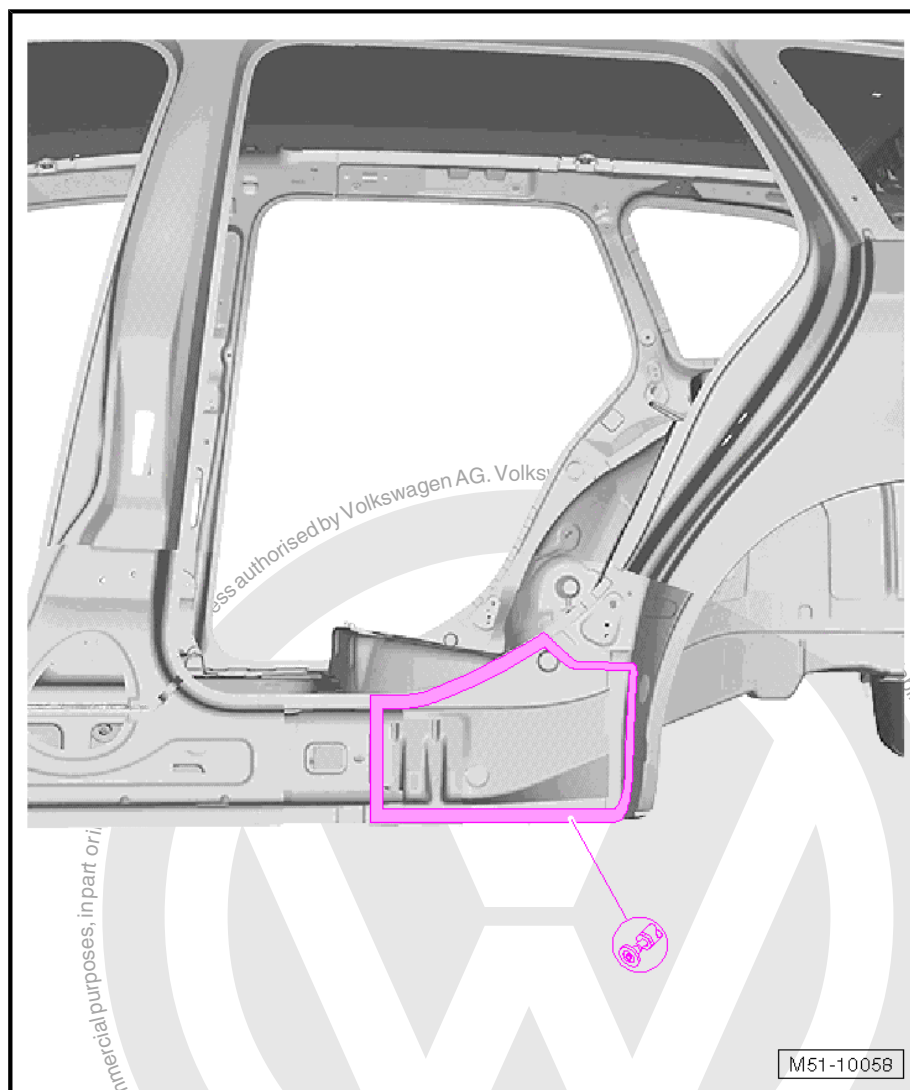
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 12.2 Removing



- Perform the separating cut as shown.
- Separate original joint to inner sill panel and to wheel housing liner.



- Remove remaining pieces on inner sill panel and on outer wheel housing liner.

## 12.3 Installing

⇒ ["12.3.1 Preparing New Parts", page 198](#)

⇒ ["12.3.2 Welding", page 199](#)



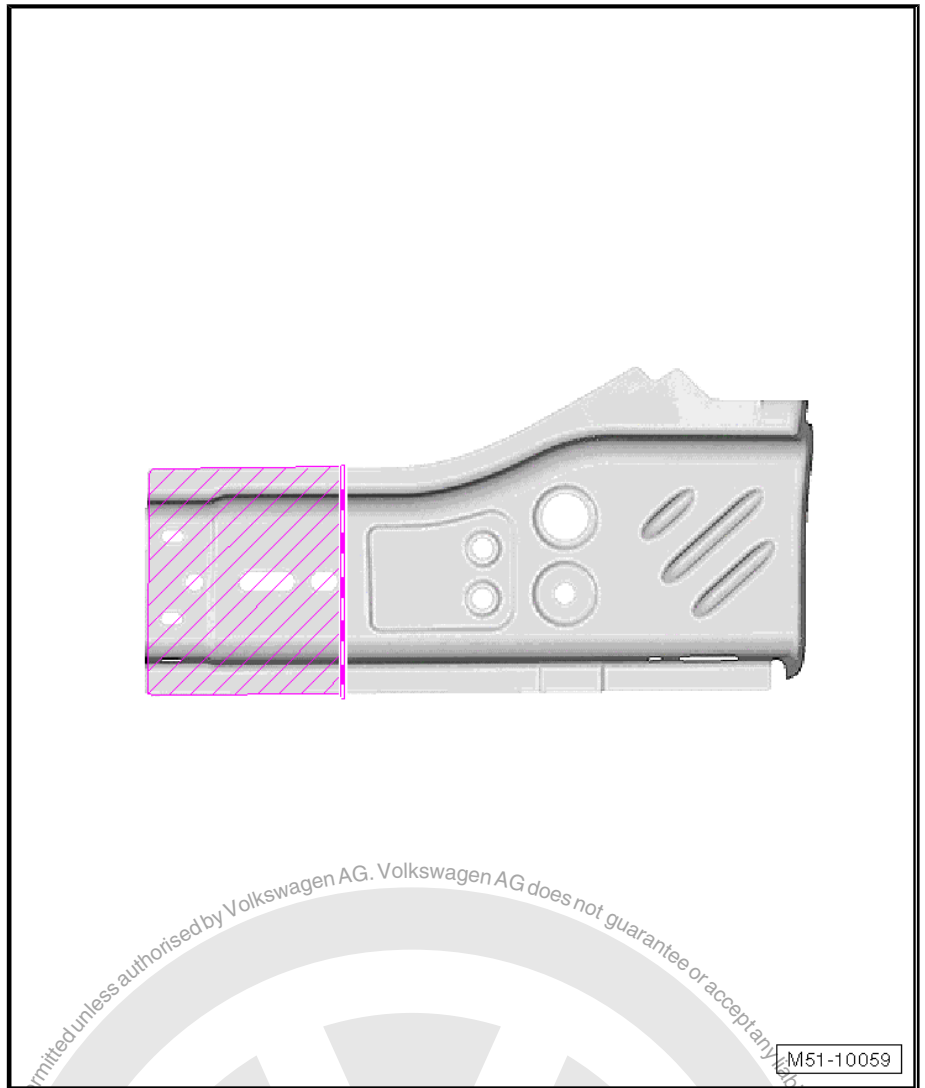
### Note

*When using different types of steel and materials of different strengths, one of the special tools listed are required to perform repair work correctly, refer to ⇒ ["12.1 Tools", page 197](#).*

### 12.3.1 Preparing New Parts

#### Replacement Part

- ◆ Rear sill panel reinforcement



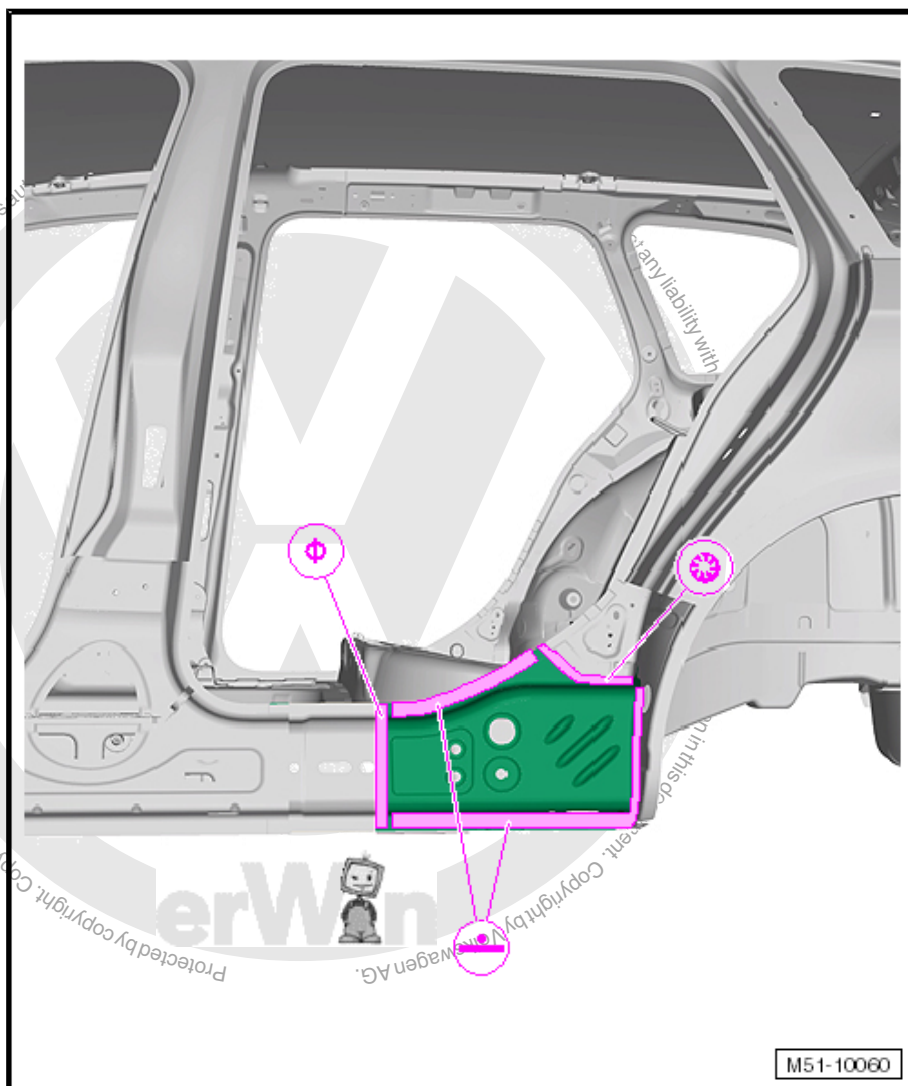
- Transfer separating cut on to new part and cut.

### 12.3.2 Welding

- Fit new part to vehicle standing on Straightening Bracket Set and secure.



- Check fit with neighboring components.



- Weld in rear sill panel reinforcement, straight-line spot weld seam.
- Weld separating cut, SG stepped seam.
- Install the sill panel, refer to ⇒ [“10.3 Installing”, page 183](#) .



RO: 51 69 55 56

## 13 Outer Seat Cross Member Mount, Replacing

⇒ ["13.1 Tools", page 202](#)

⇒ ["13.2 Removing", page 203](#)

⇒ ["13.3 Installing", page 204](#)



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision  
Repair



### Note

- ◆ *If a thread in the outer seat cross member mount is damaged, then it must be replaced.*
- ◆ *If the outer seat cross member mount (with the VIN) must be replaced, then be sure to document the service according to all market specific legal requirements.*
- ◆ *The positioning of the VIN should be done prior to welding the outer seat crossmember mount.*





1 - Outer Seat Crossmember Mount

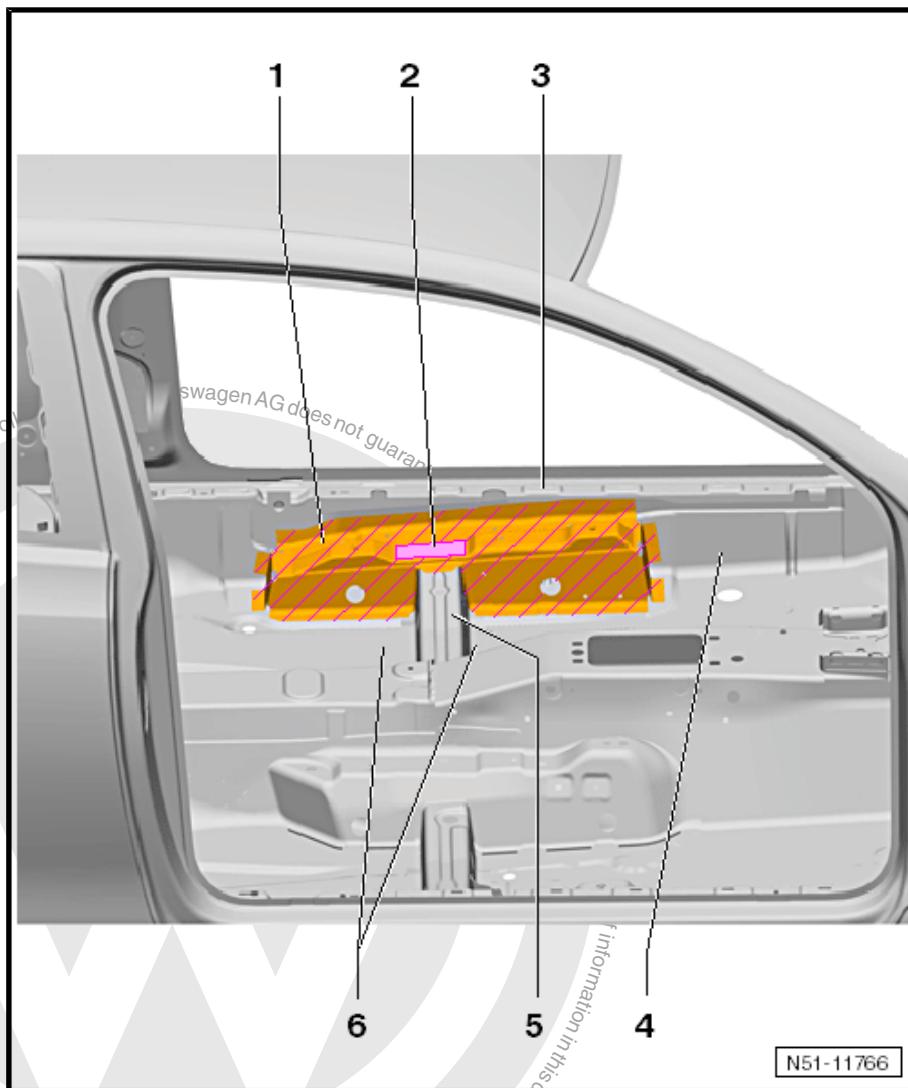
2 - Vehicle Identification Number (VIN; on the right side of the vehicle only)

3 - Inner Sill Panel Plate

4 - Inner Sill Panel

5 - Seat Crossmember

6 - Floor Panel



## 13.1 Tools



### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

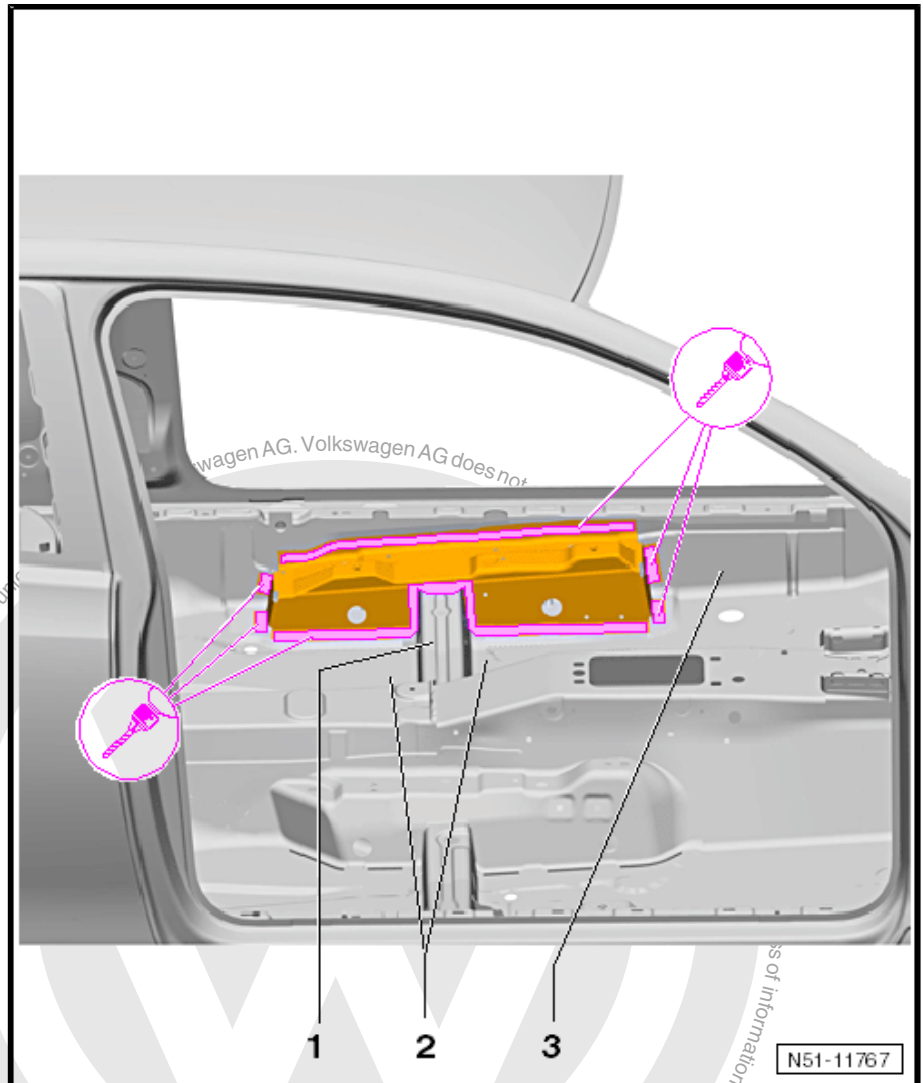




## 13.2 Removing

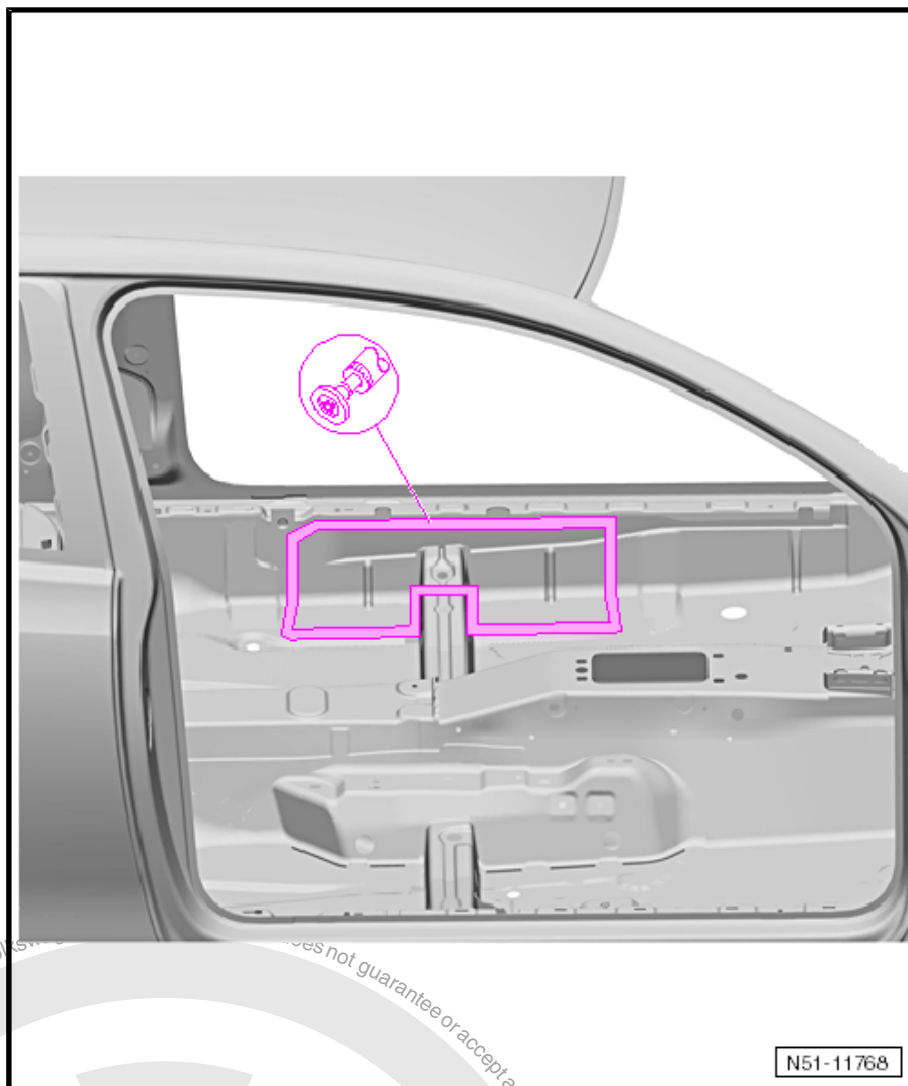


*When loosening the weld seams, be sure not to damage the plates behind it.*



- Separate the original connection to the seat crossmember -1-, to the floor panel -2- and to the sill panel -3-.





- Remove residual material.

### 13.3 Installing

⇒ [“13.3.1 Preparing New Parts”, page 204](#)

⇒ [“13.3.2 Welding”, page 205](#)



#### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“13.1 Tools”, page 202](#).*

#### 13.3.1 Preparing New Parts

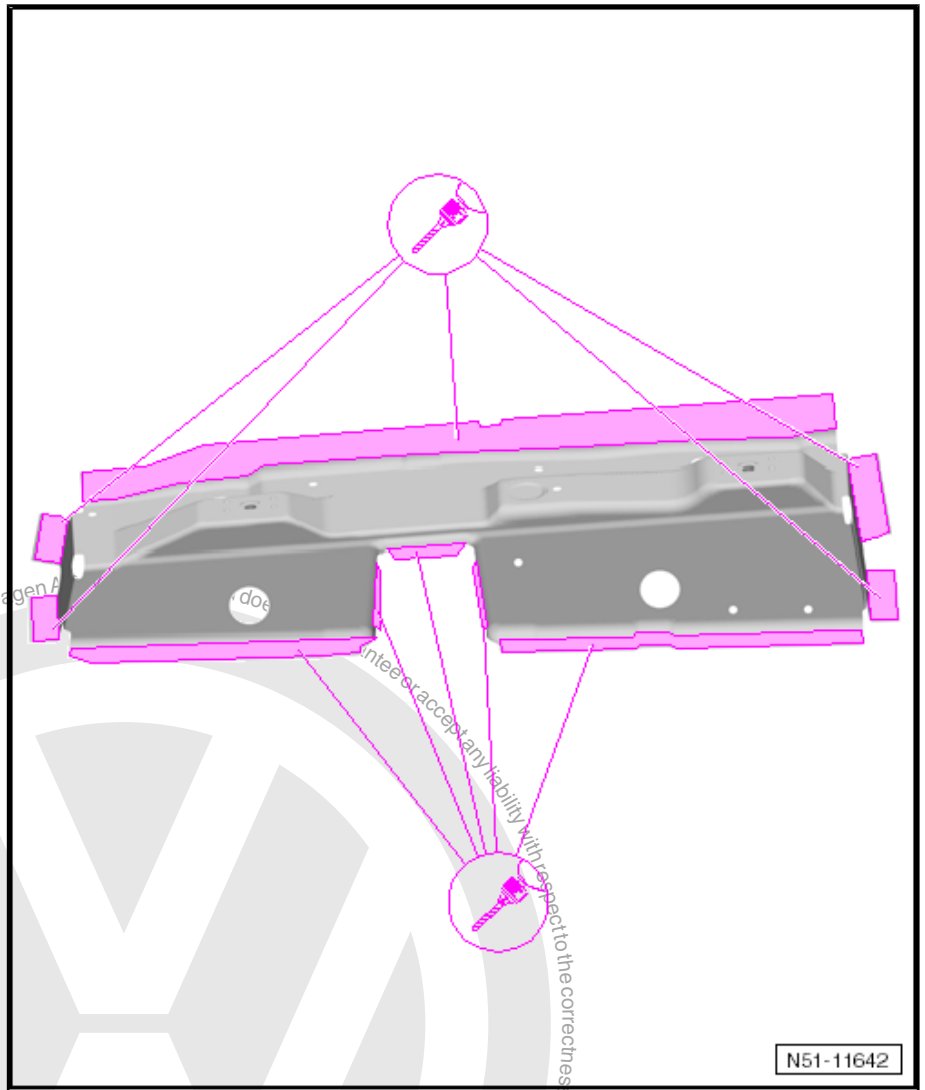
##### Replacement Part

- ◆ Outer seat cross member mount (Replacement Part identification: seat bracket)



#### Note

*If necessary, apply the vehicle identification number (VIN) before installing.*



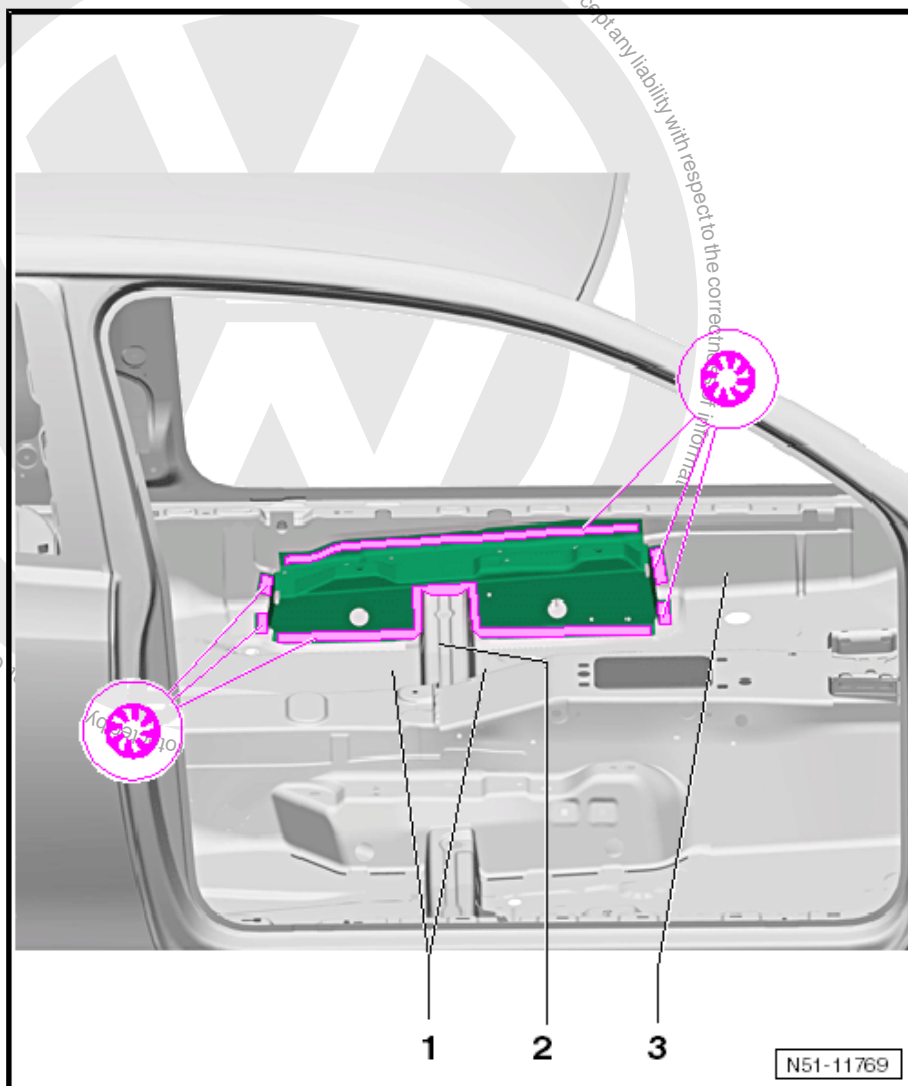
- Drill 7 mm holes for the gas-shielded arc plug weld seam.

### 13.3.2 Welding

- Align the new part and secure it in place.



- Check the fit with the seat.



- Weld the outer seat cross member mount to the floor panel -1-, to the seat cross member -2- and to the inner sill panel -3- with a gas-shielded arc plug weld seam.



RO: 51 69 55 58

## 14 Inner Seat Crossmember Mount, Replacing

⇒ ["14.1 Tools", page 208](#)

⇒ ["14.2 Removing", page 209](#)

⇒ ["14.3 Installing", page 210](#)



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- The outer seat crossmember mounting is already removed, refer to  
⇒ ["13 Outer Seat Cross Member Mount, Replacing", page 201](#).
- Seat crossmember already removed, refer to  
⇒ ["15 Center Seat Crossmember, Replacing", page 213](#).



### Note

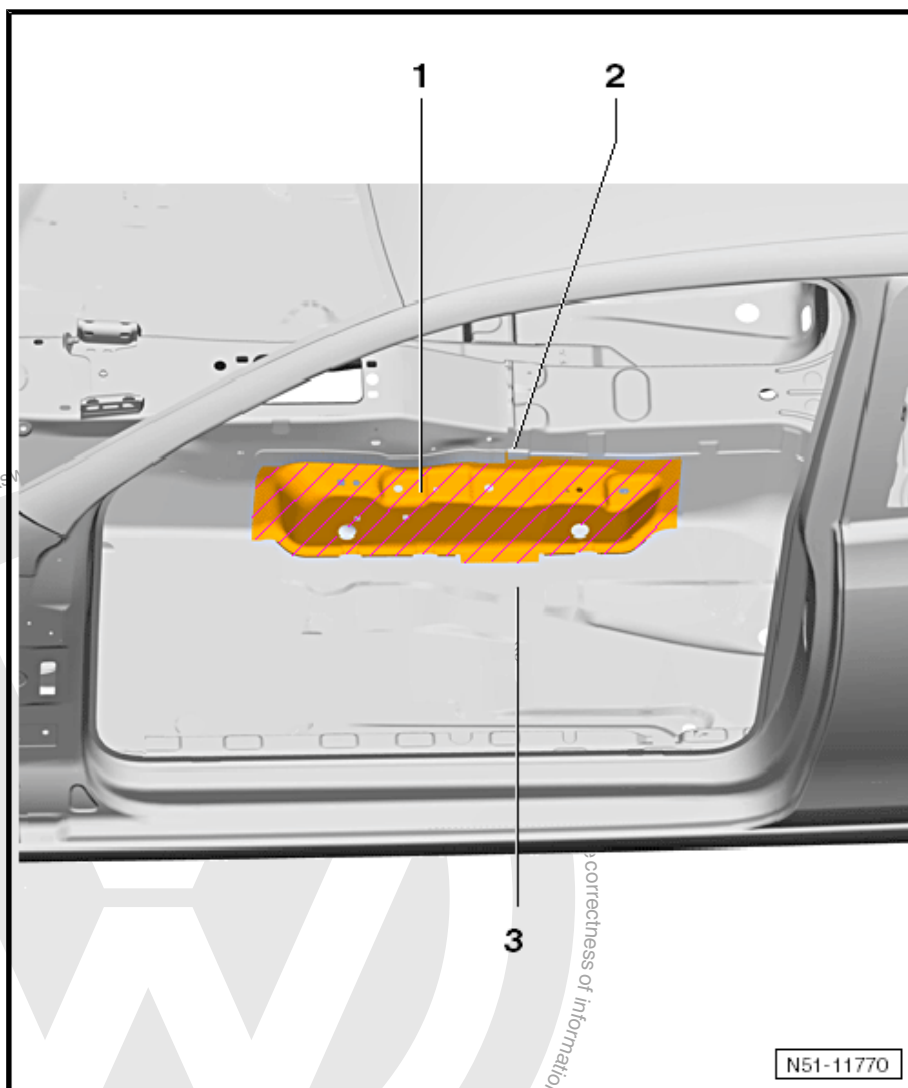
*If a thread in mount of seat cross member is damaged, component must be replaced.*



1 - Inner Seat Crossmember Mount

2 - Center Tunnel

3 - Floor Panel



## 14.1 Tools



### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

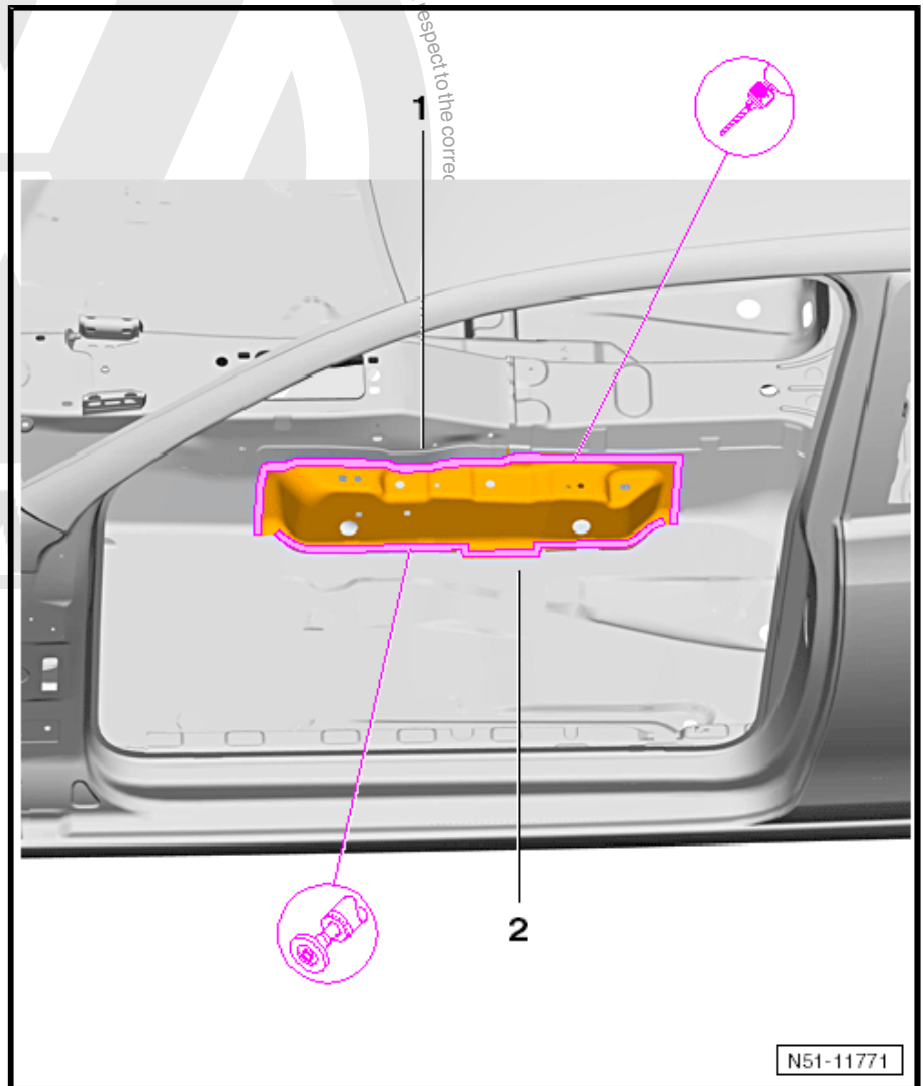


## 14.2 Removing

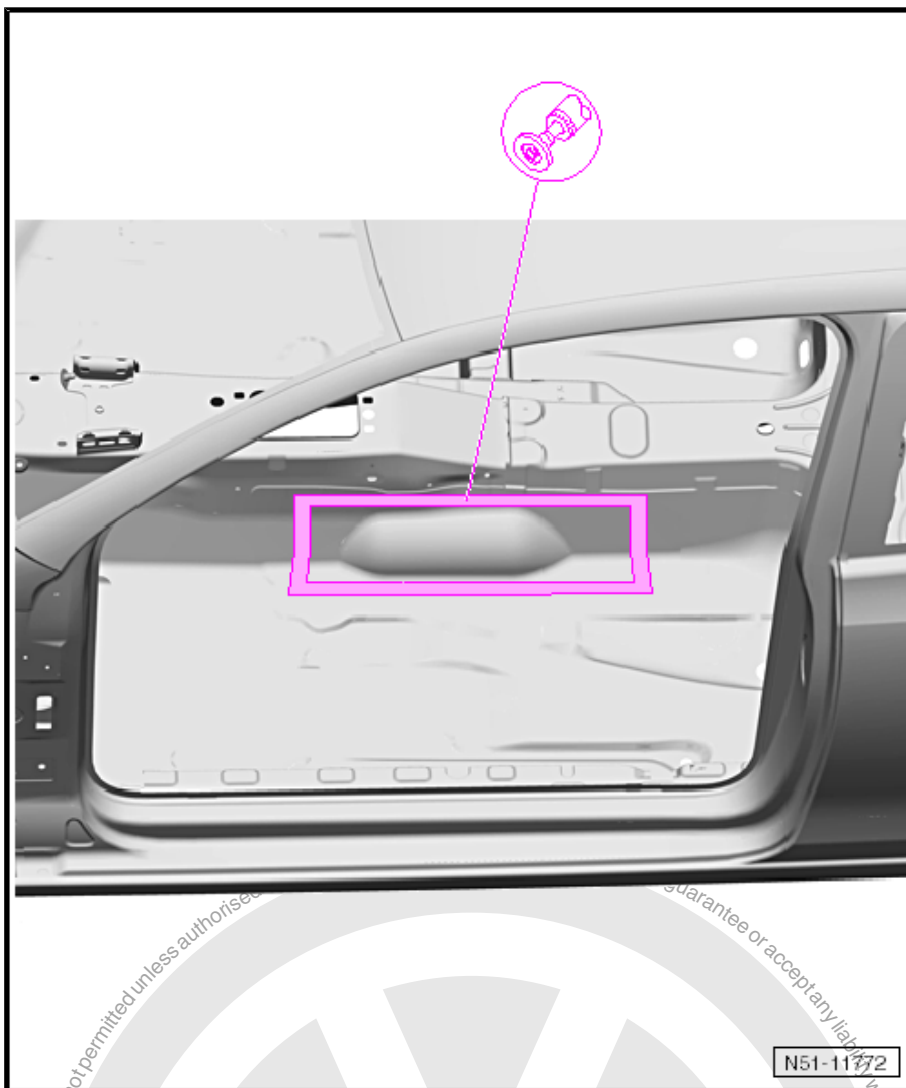


### Note

- ◆ When loosening the weld seams, be sure not to damage the plates behind it.
- ◆ The weld points on the center tunnel reinforcement near -1- must be drilled out because the mount for the seat crossmember is installed there.



- Separate the original connection to the center tunnel -1- and to the floor panel -2-.



- Remove residual material.

## 14.3 Installing

⇒ [“14.3.1 Preparing New Parts”, page 210](#)

⇒ [“14.3.2 Welding”, page 211](#)



### Note

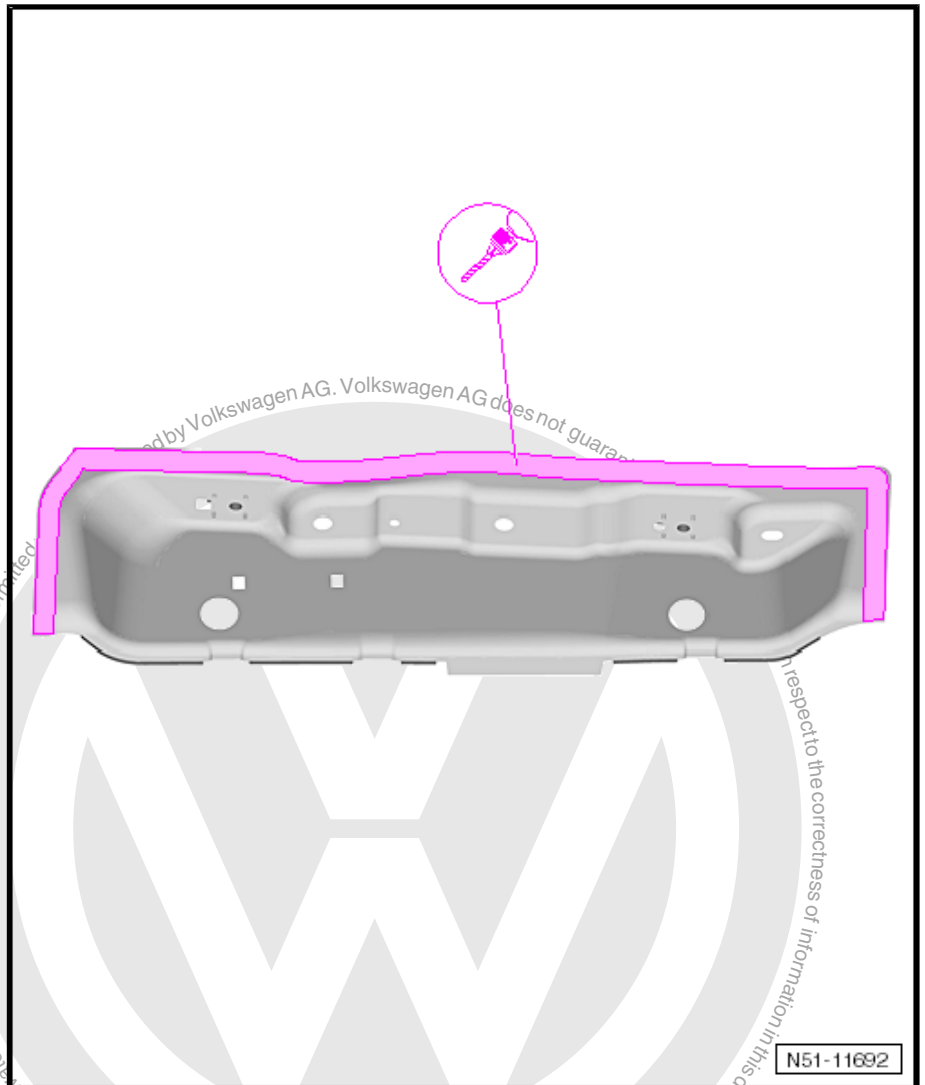
*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“14.1 Tools”, page 208](#).*

### 14.3.1 Preparing New Parts

#### Replacement Part

- ◆ Inner seat cross member mount (Replacement Part identification: bracket)

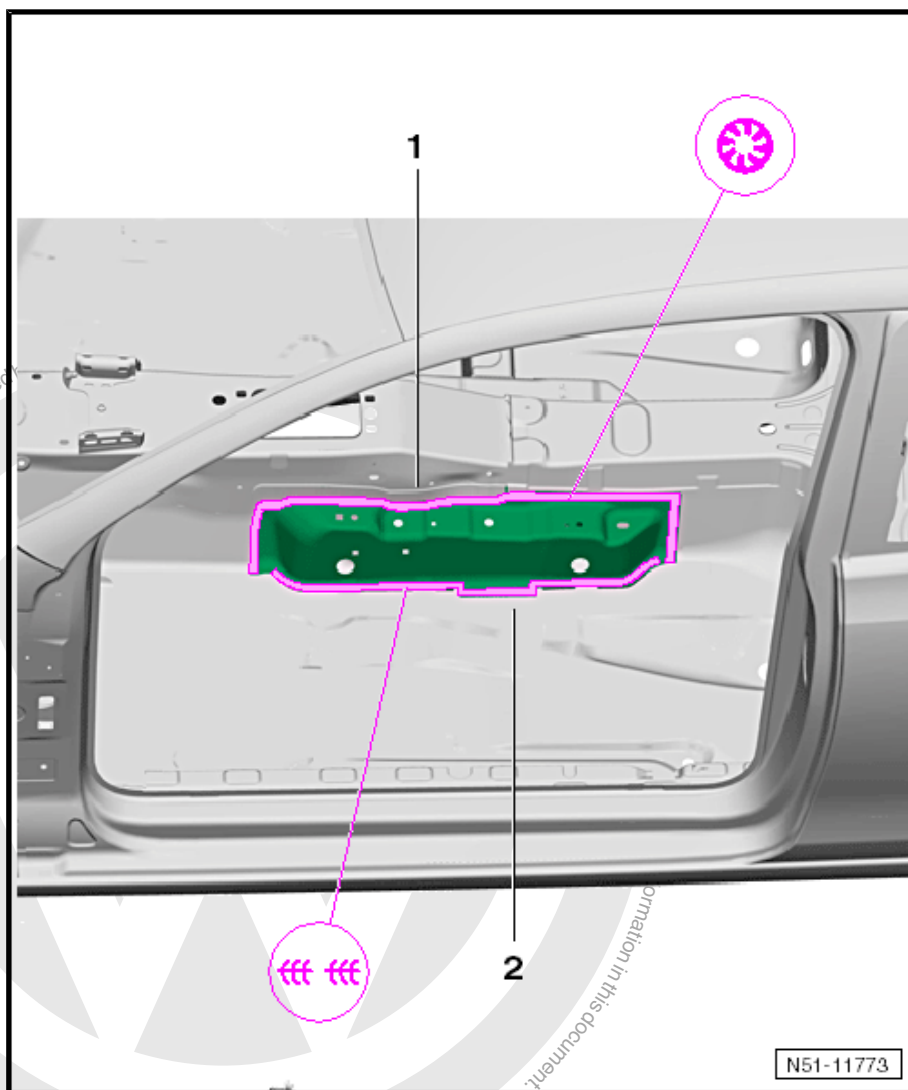




- Drill 7 mm holes for gas-shielded arc plug weld seam.

### 14.3.2 Welding

- Align and secure new parts.
- Make sure the outer seat crossmember mount, the seat crossmember and the seat fit correctly.



- Weld the inner seat cross member mount to the center tunnel -1- and to the floor panel -2-, gas-shielded arc plug weld and gas-shielded arc continuous weld seam (staggered).
- Install the seat cross member, refer to [⇒ "15.3 Installing", page 215](#).
- Install mount for outer seat cross member, refer to [⇒ "13.3 Installing", page 204](#).



RO: 51 87 55 50

## 15 Center Seat Crossmember, Replacing

⇒ ["15.1 Tools", page 214](#)

⇒ ["15.2 Removing", page 214](#)

⇒ ["15.3 Installing", page 215](#)



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

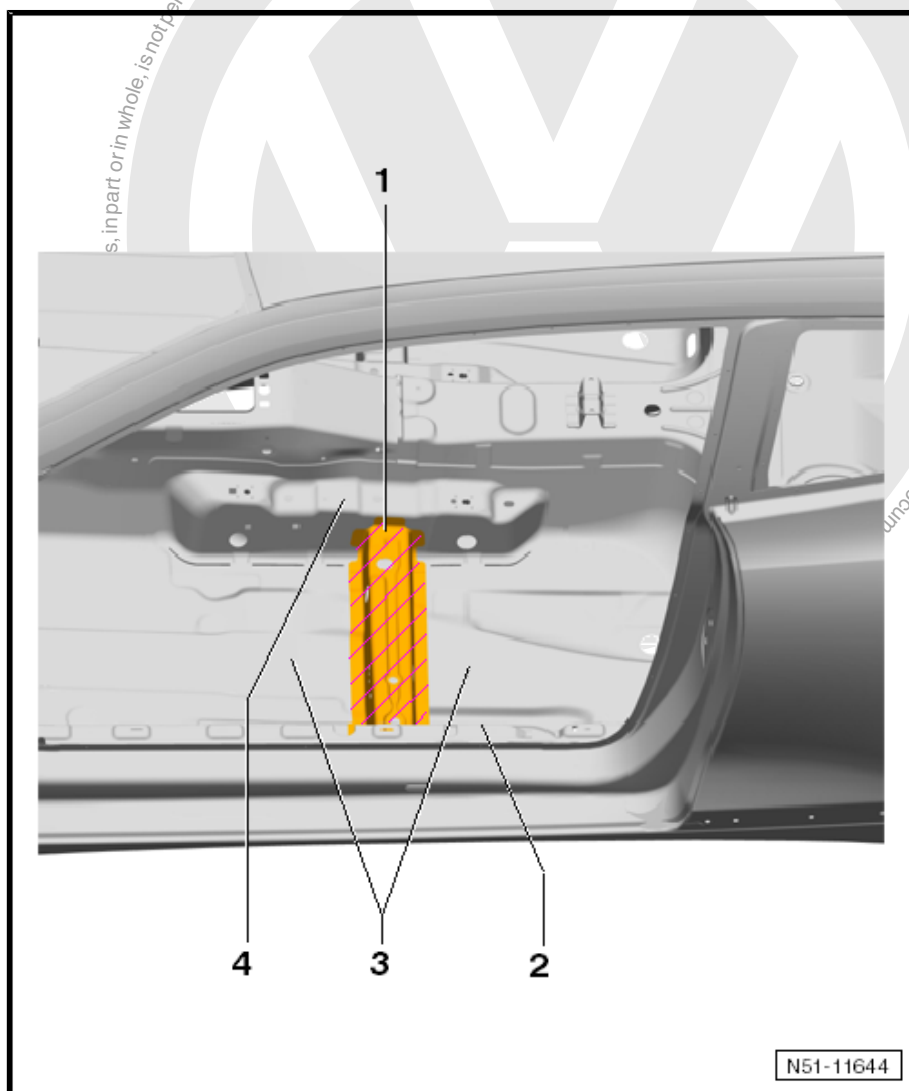
- The outer seat crossmember mounting is already removed, refer to  
⇒ ["13 Outer Seat Cross Member Mount, Replacing", page 201](#).

1 - Seat Crossmember

2 - Assembly Carrier

3 - Floor Panel

4 - Inner Seat Crossmember Mount



N51-11644



## 15.1 Tools



### Note

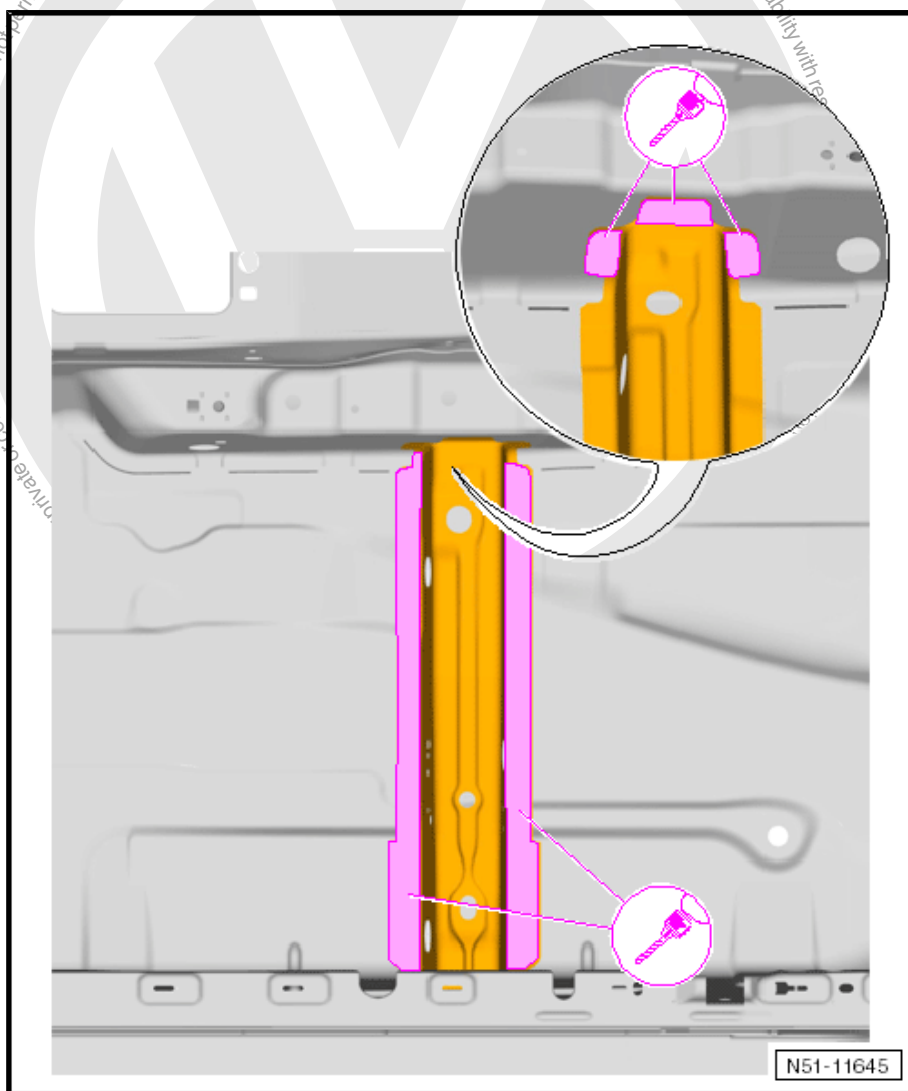
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 15.2 Removing

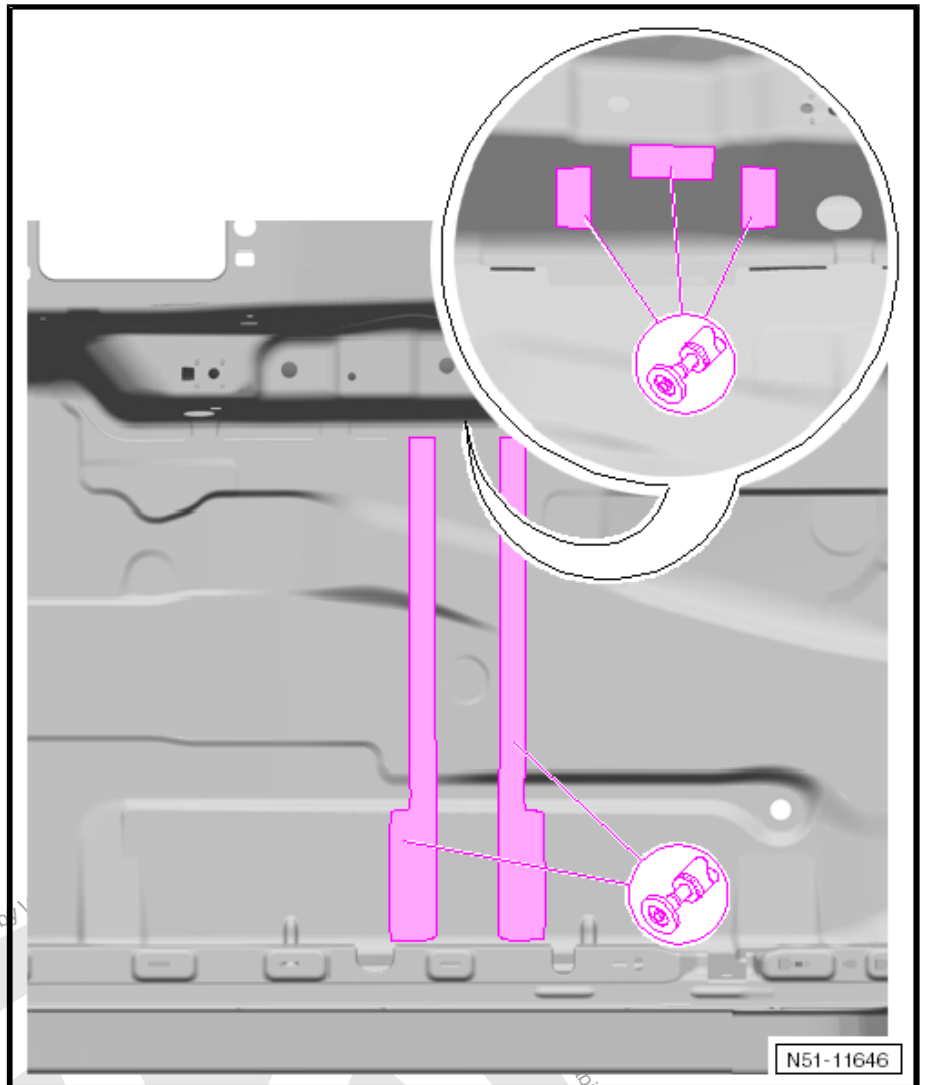


### Note

When loosening the weld seams, be sure not to damage the plates behind it.



- Open the original joint for the inner seat crossmember mount and for the floor panel.



- Remove residual material.

## 15.3 Installing

⇒ ["15.3.1 Preparing New Parts", page 215](#)

⇒ ["15.3.2 Welding", page 216](#)



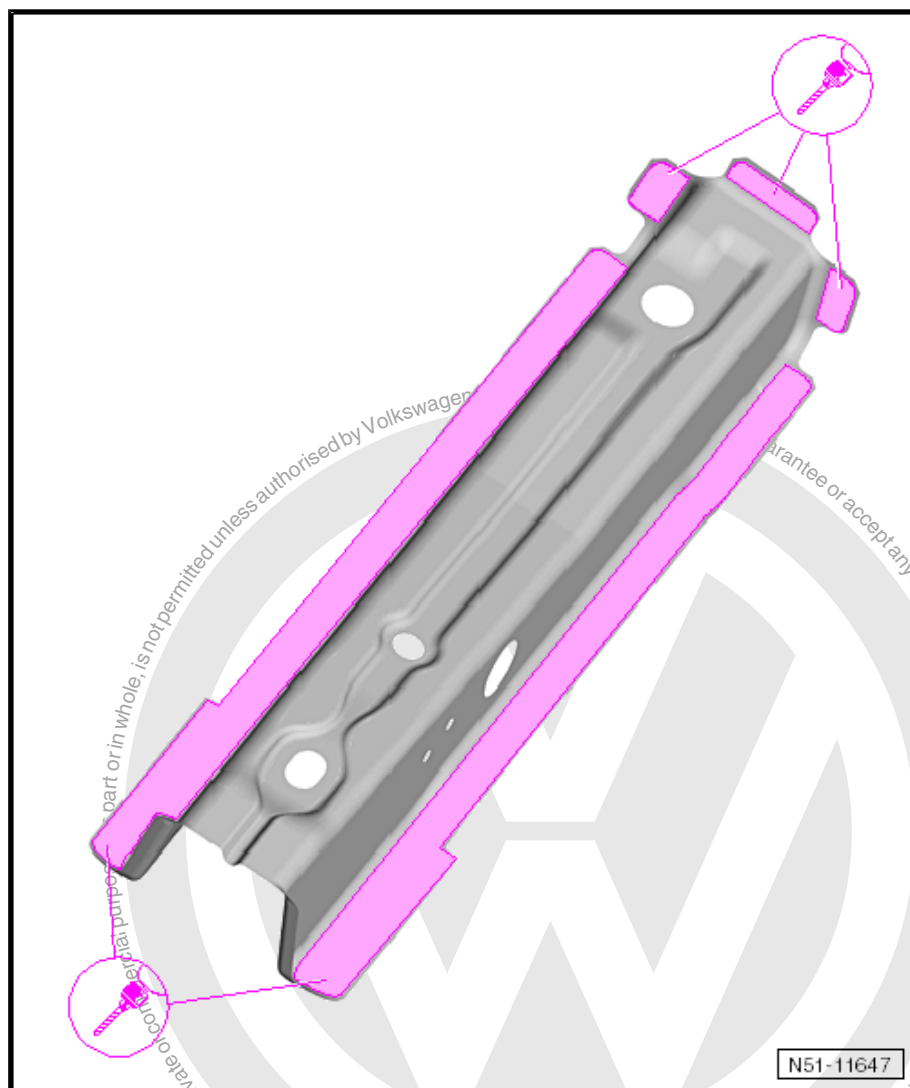
### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["15.1 Tools", page 214](#).*

### 15.3.1 Preparing New Parts

#### Replacement Part

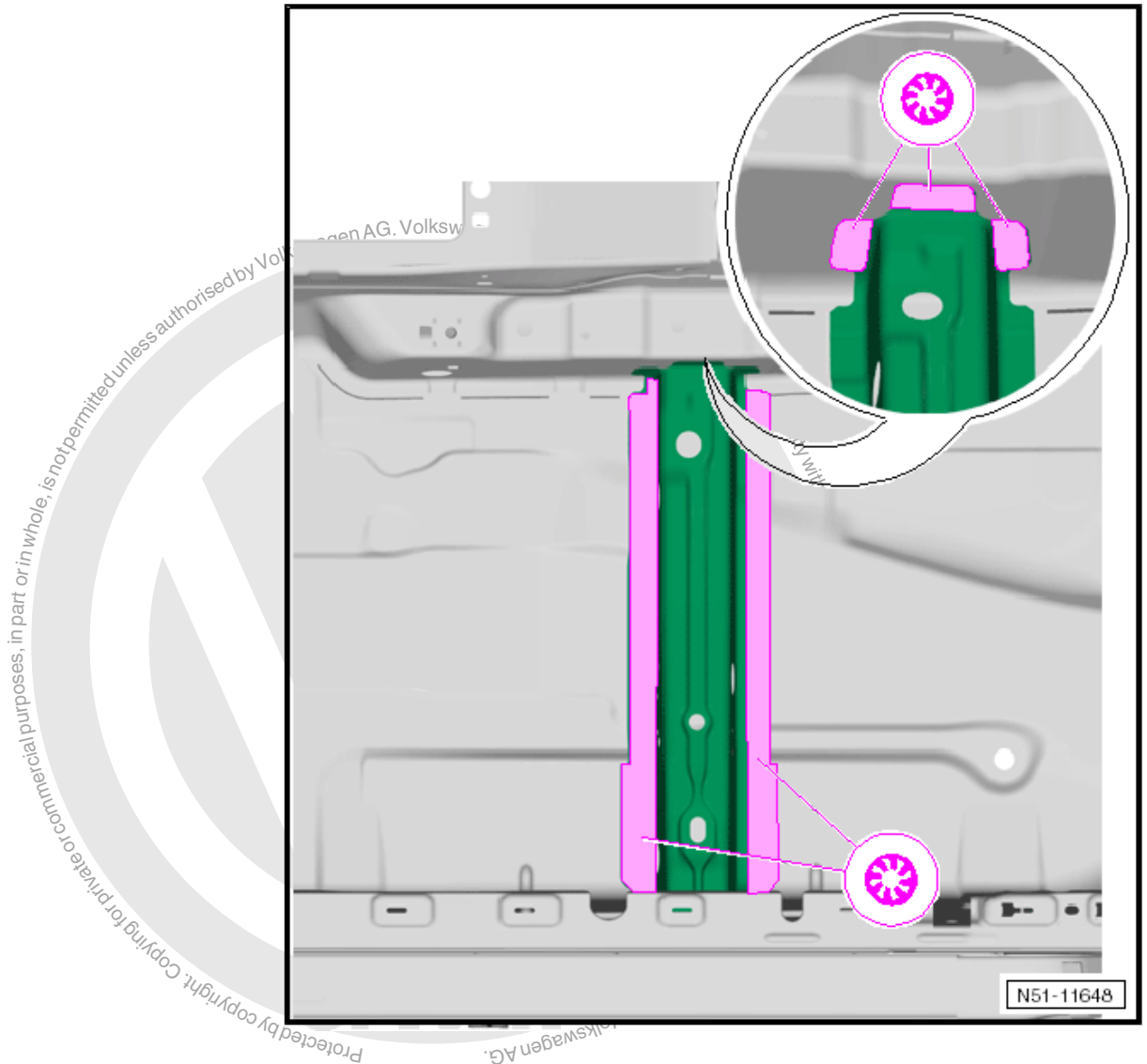
- ◆ Seat Crossmember



- Drill 7 mm holes for the gas-shielded arc plug weld seam.

### 15.3.2 Welding

- Align and secure new parts.
- Make sure the outer seat crossmember mount and the seat fit correctly.



- Weld the seat crossmember to the inner seat crossmember mount and to the floor panel with a gas-shielded arc plug weld seam.
- Install mount for outer seat cross member, refer to ["13.3 Installing", page 204](#).



## 53 – Body Rear

RO: 53 05 55 00

### 1 Cross Panel, Replacing

⇒ "1.1 Tools", page 219

⇒ "1.2 Removing", page 219

⇒ "1.3 Installing", page 222

Includes: lock carrier, partial section of rear cross panel, tail lamp and sealing channel separating part



#### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

#### 1 - Cross Panel with Lock Carrier



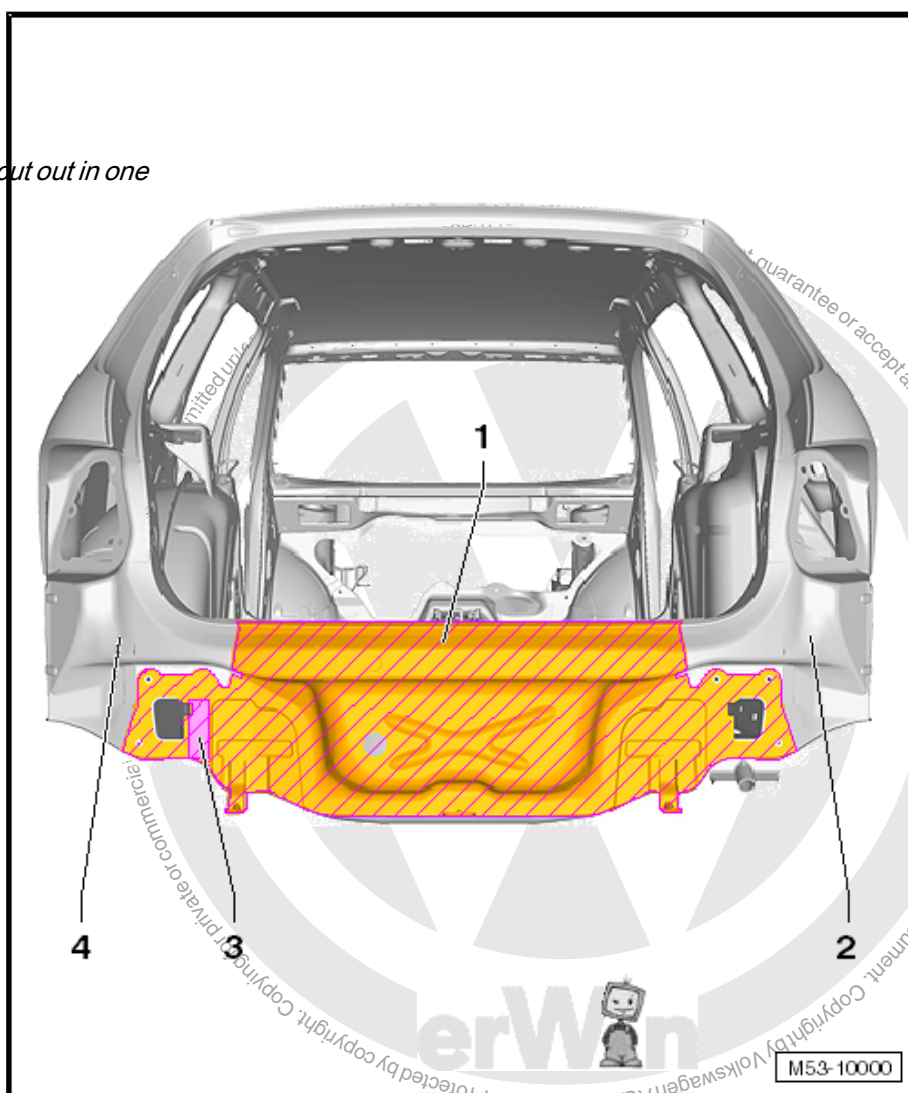
#### Note

*Rear cross panel - 1- is cut out in one piece.*

#### 2 - Right Tail Lamp Connecting Plate

#### 3 - Glued Area

#### 4 - Left Tail Lamp Connecting Plate







## 1.1 Tools



### Note

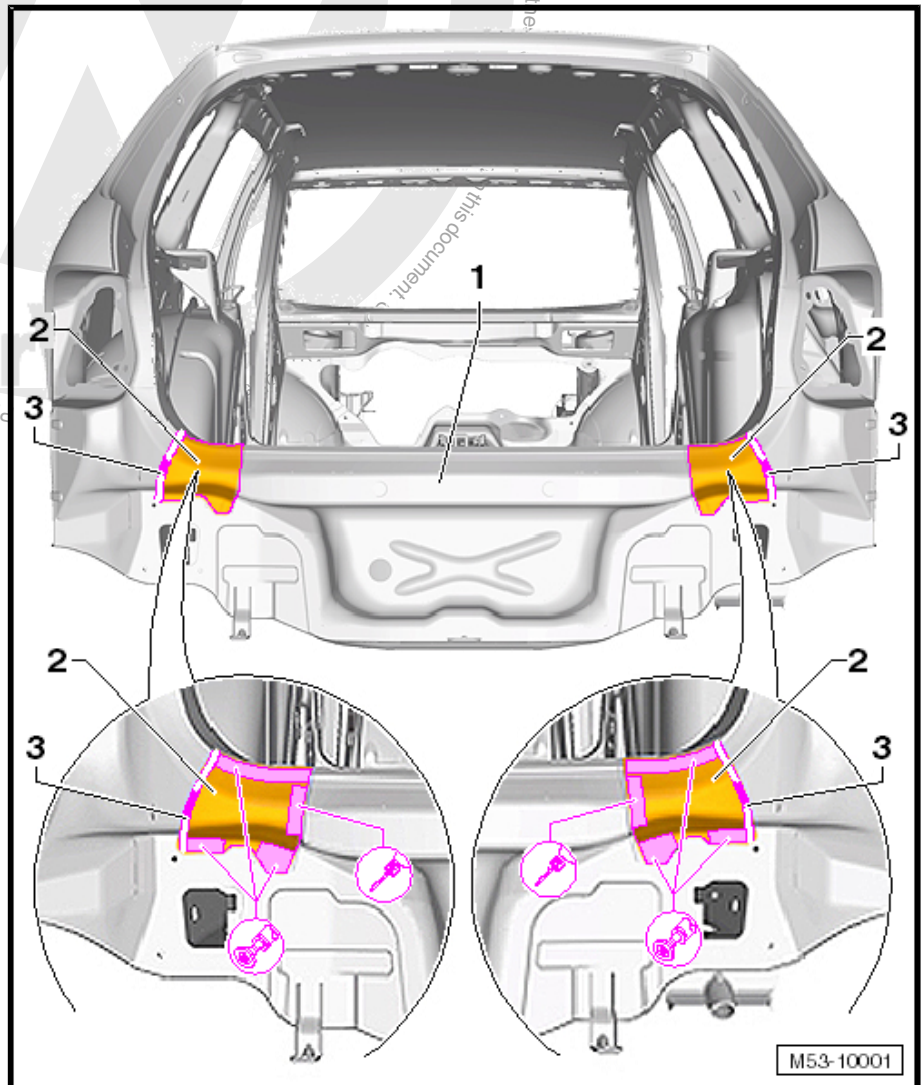
- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 1.2 Removing



### Note

To remove the rear cross panel -1-, a partial section of the panel tail lamp -2- must be separated at the left and right.



- Perform the separating cut -3- on the partial section of the rear cross panel tail lamp -2- at the left and right as shown.

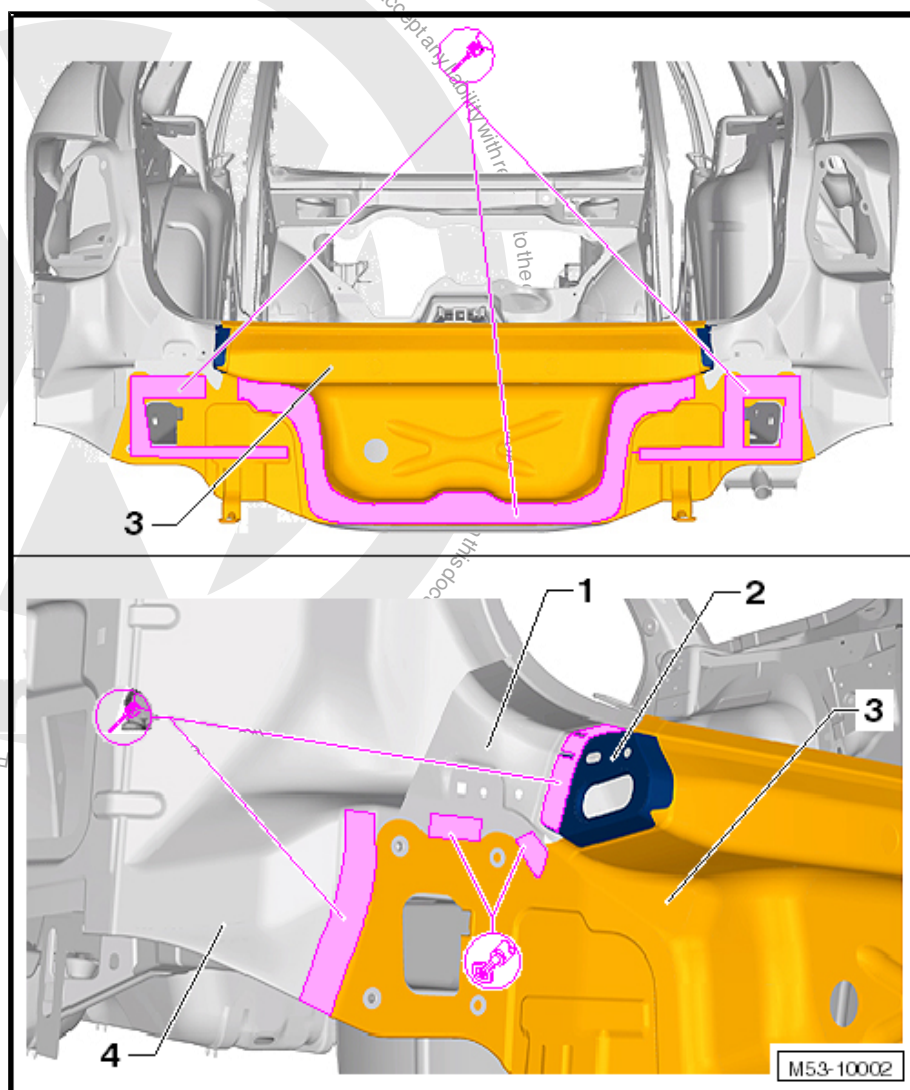


- Separate original joint.

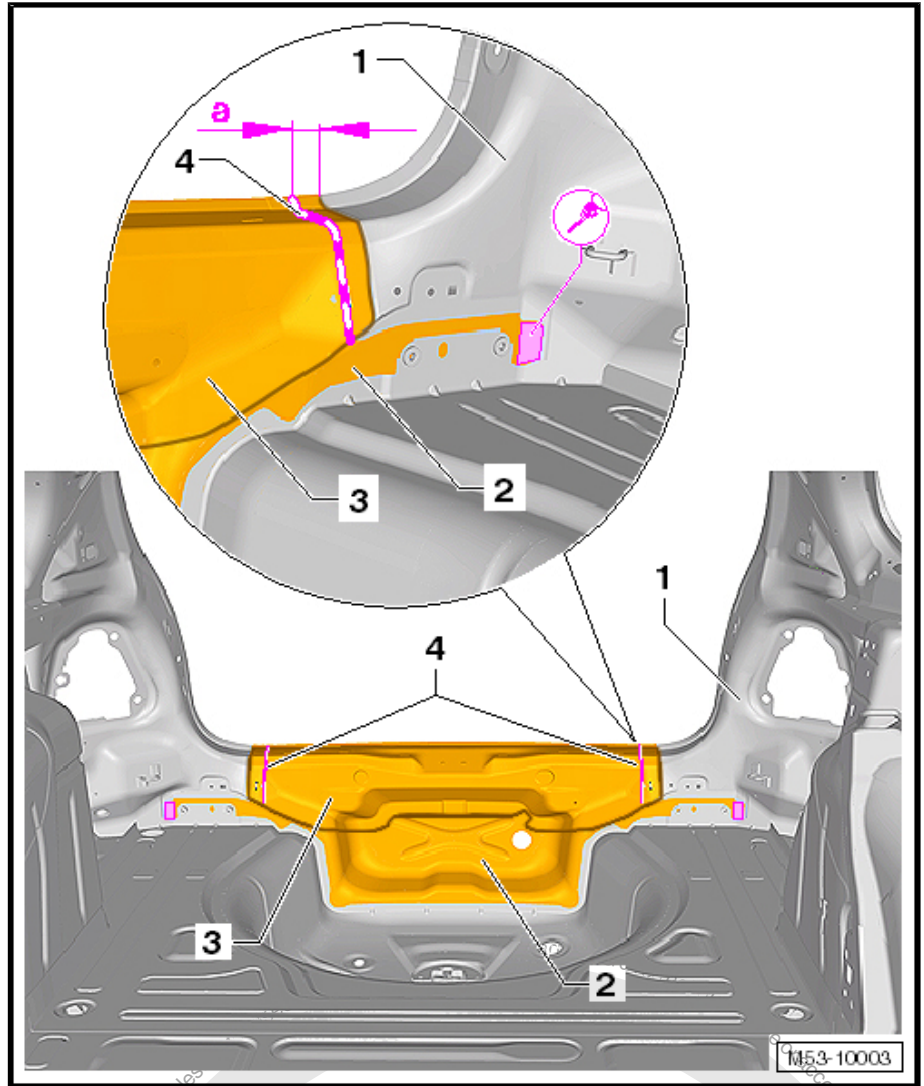


#### Note

- ◆ To remove the rear cross panel -3-, the sealing channel separating part -2- must also be removed. The sealing channel end plate -2- is a component of the tail lamp cross panel -item 2- ⇒ [Item 2 \(page 223\)](#).
- ◆ On the connection to the inner D-pillar -1-, the cross panel -3- is still welded to the rear longitudinal member. Carefully grind down the cross panel in this area.



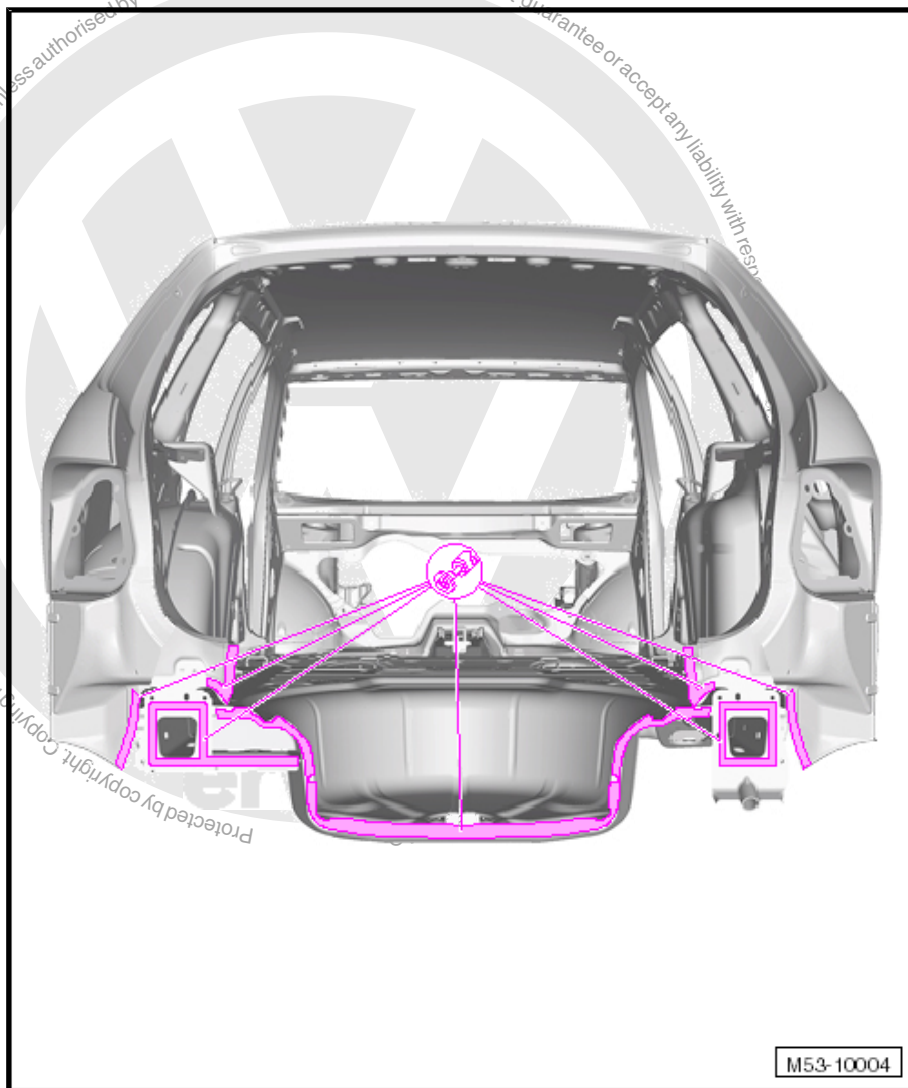
- Separate original joint.
- Loosen the piece from the original joint for the tail lamp connecting plate -4- and gently bend it upward.



- Loosen the original joint between the inner D-pillar -1- and the cross panel -2-.
- Make the separating cut -4- on the lock carrier -3- as shown.

**Dimension -a- = 25 mm**

- Remove the cross panel -2- with the lock carrier -3- from the vehicle.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 1.3 Installing

⇒ [“1.3.1 Preparing New Parts”, page 223](#)

⇒ [“1.3.2 Welding”, page 223](#)

⇒ [“1.3.3 Weld Screws, Installing”, page 227](#)



#### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“1.1 Tools”, page 219](#).*





### 1.3.1 Preparing New Parts

#### Replacement Part

##### 1 - Separating Cut

##### 2 - Tail Lamp Connecting Plate

- ☐ Transfer separating cut -1- to new part
- ☐ Cut off hatched area
- ☐ Drill 7 mm holes for a gas-shielded arc plug weld seam

##### 3 - Sealing Channel End Plate

- ☐ Weld to the back panel -6- with a straight-line spot weld seam
- ☐ not available separately as Replacement Part
- ☐ Is a component of the tail lamp connecting plate -item 2-  
⇒ [Item 2 \(page 223\)](#)

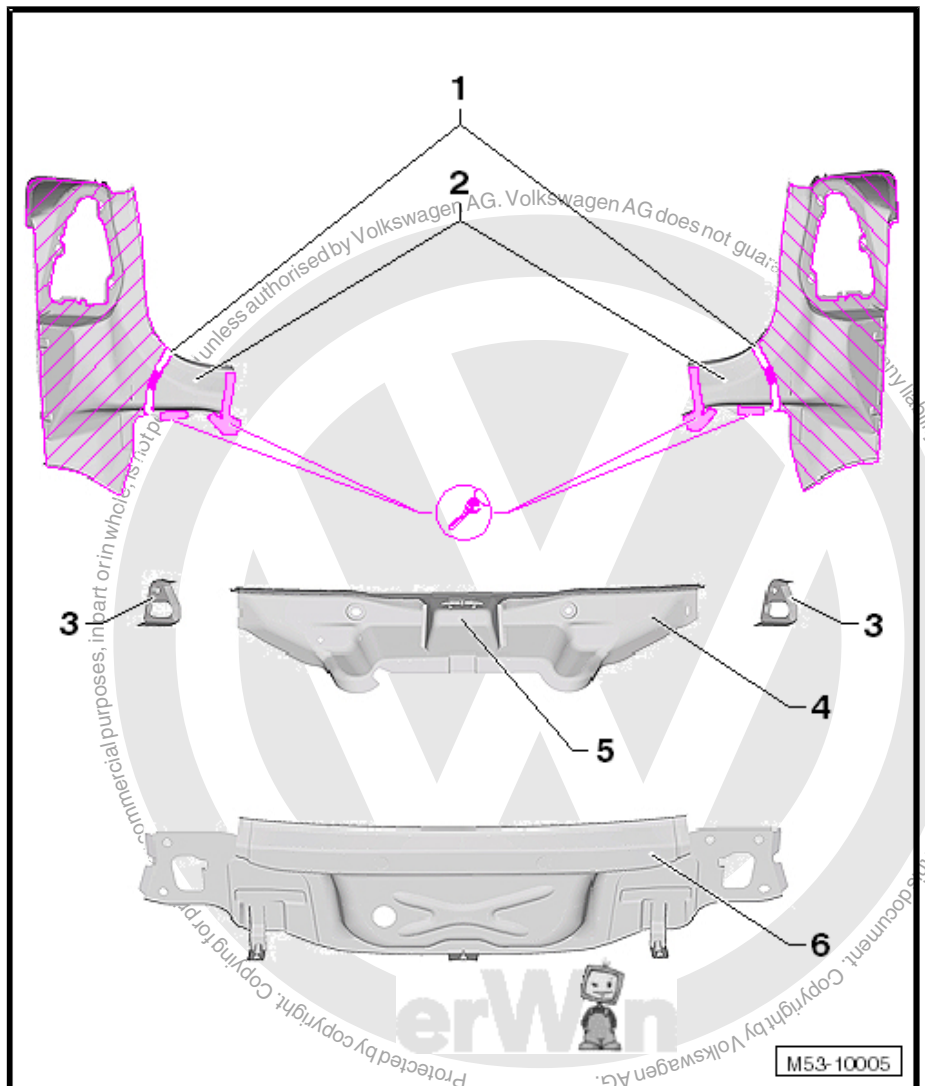
##### 4 - Lock Carrier

- ☐ With lock reinforcement

##### 5 - Lock Reinforcement

- ☐ Assembly with lock carrier

##### 6 - Cross Panel



### 1.3.2 Welding



#### Note

*Observe installation sequence*

- 1 - Cross panel
- 2 - Lock Carrier
- 3 - Tail lamp connecting plate (partial section)

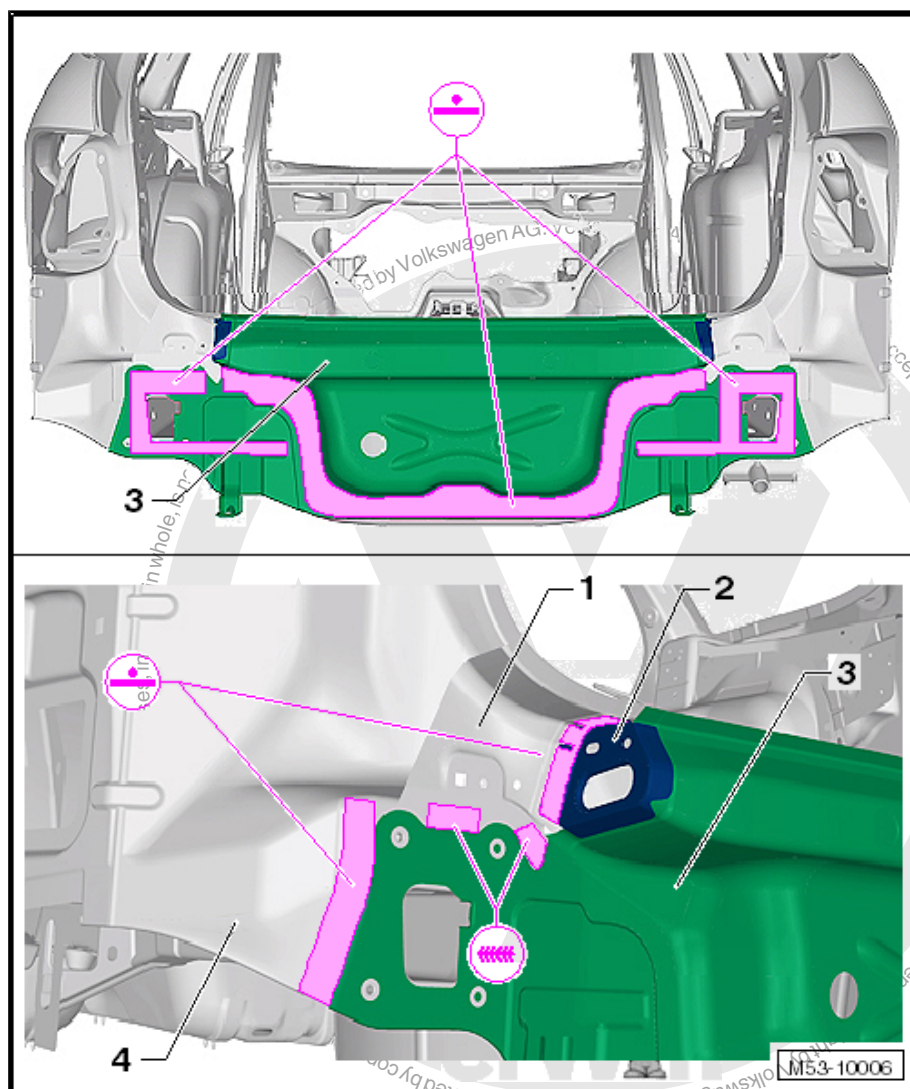


#### Note

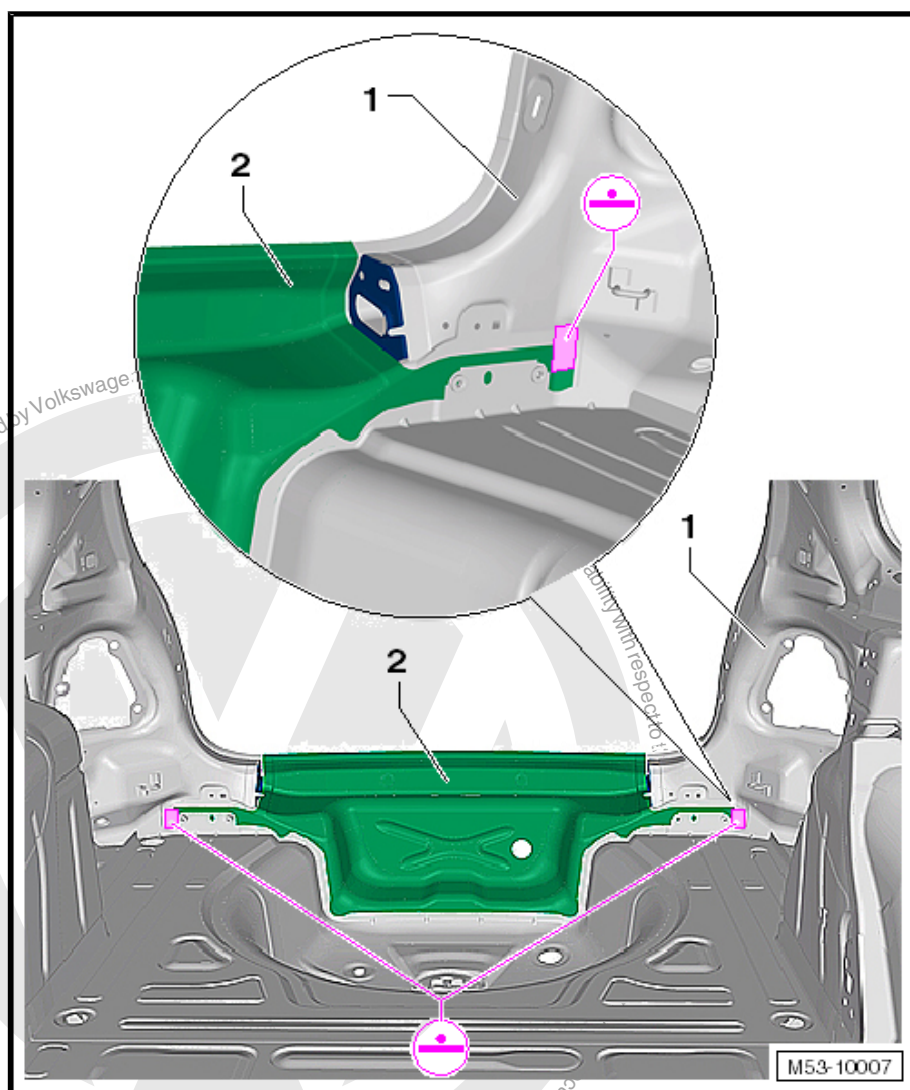
- ◆ *New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*
- ◆ *Align and secure new parts with vehicle standing on wheels or alignment bracket set.*



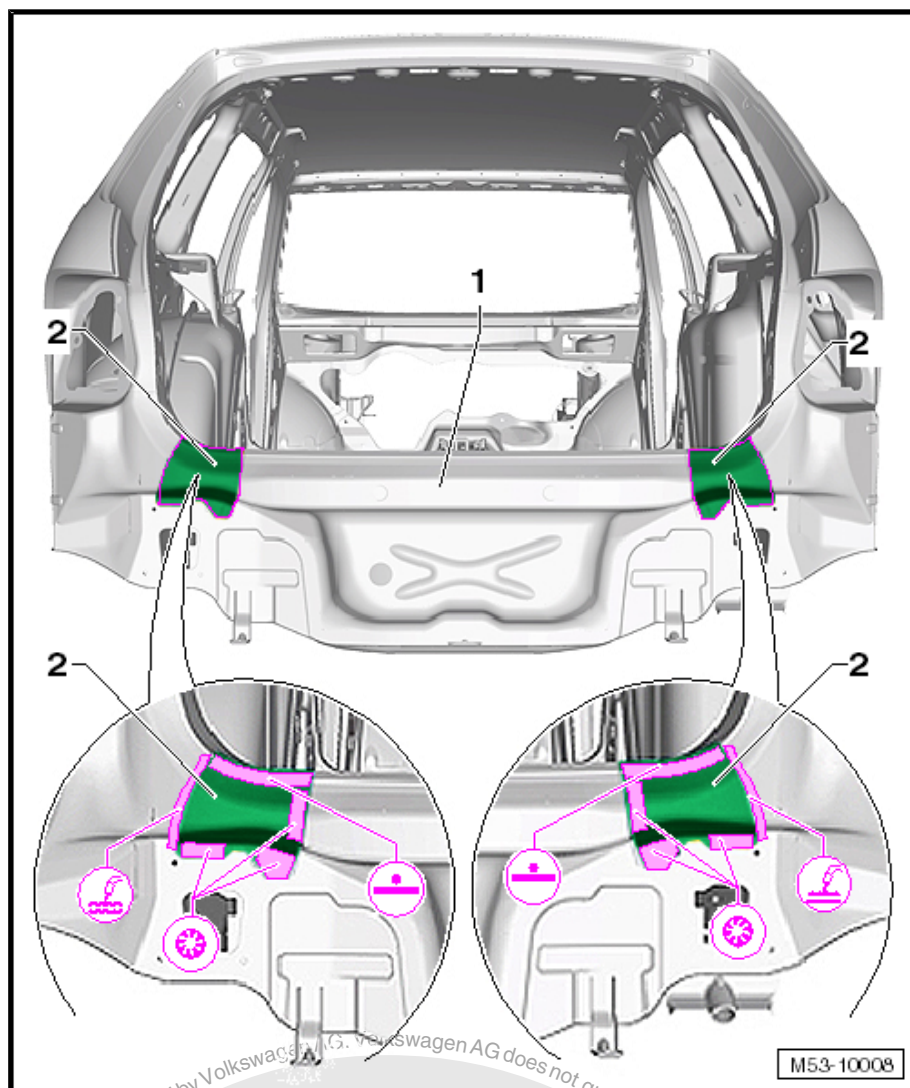
- Align and secure the rear cross panel.
- Check fit with attachments.
- Check rear lid closing function.



- Apply a 4 mm flat layer of 2K Body Adhesive - D 180 003 M2- near the adhesive applied at the factory.
- Weld in the cross panel -3- using a straight-line spot weld seam.
- Weld the sealing channel end plate -2- with the inner D-pillar -1- using a straight-line spot weld seam.
- Weld the cross panel -3- with the inner D-pillar -1-, gas shielded arc continuous weld seam.
- Grind down the gas shielded arc continuous weld seam.
- Weld the cross panel -3- with the tail lamp connecting plate -4- using a straight-line spot weld seam.



- Weld the cross panel -2- with the inner D-pillar -1-, straight line spot weld seam.



- Weld the partial section of the tail lamp connecting plate -2- with the cross panel -1- using a gas-shielded arc plug weld seam.
- Weld the separation cut on the tail lamp connecting plate -2-, optional MIG soldered seam/gas-shielded arc continuous weld seam.
- Weld in the lock carrier, refer to [⇒ “2.3 Installing”, page 231](#).



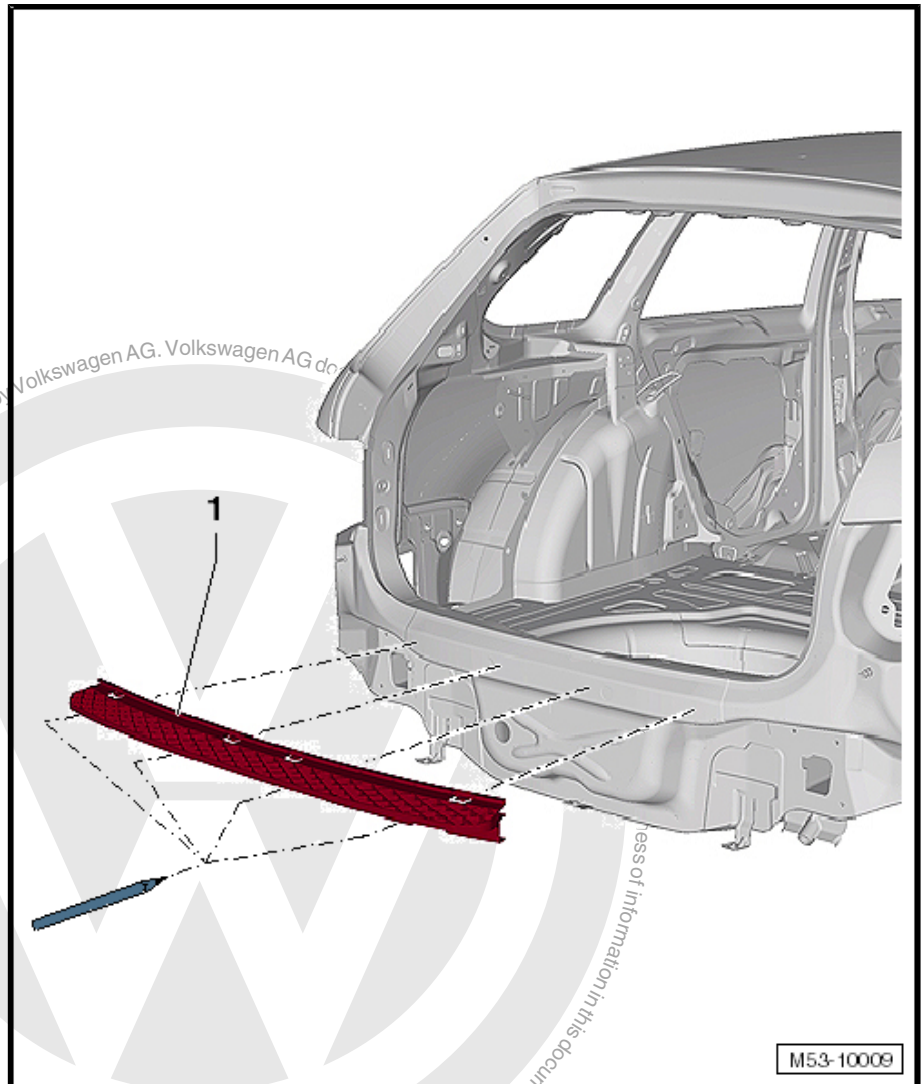
#### Note

*The weld screws for installing the bumper cover securing strip are not present on the rear cross panel and must be placed later, refer to [⇒ “1.3.3 Weld Screws, Installing”, page 227](#).*

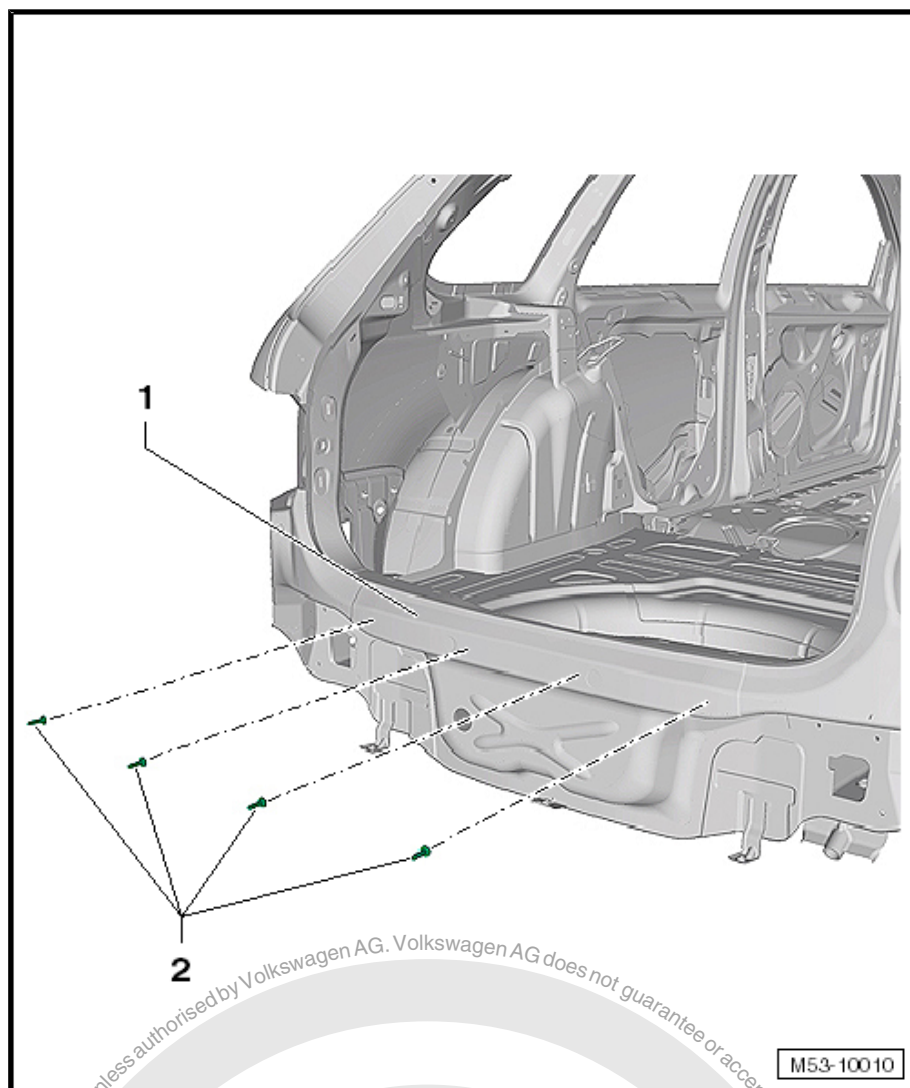




### 1.3.3 Weld Screws, Installing



- Use the bumper cover securing strip -1- to mark the position of the weld screws correctly.



- Weld the weld screws -2- to the position marked on the cross panel -1-.



RO: 53 09 55 00

## 2 Lock Carrier, Replacing

⇒ ["2.1 Tools", page 230](#)

⇒ ["2.2 Removing", page 230](#)

⇒ ["2.3 Installing", page 231](#)

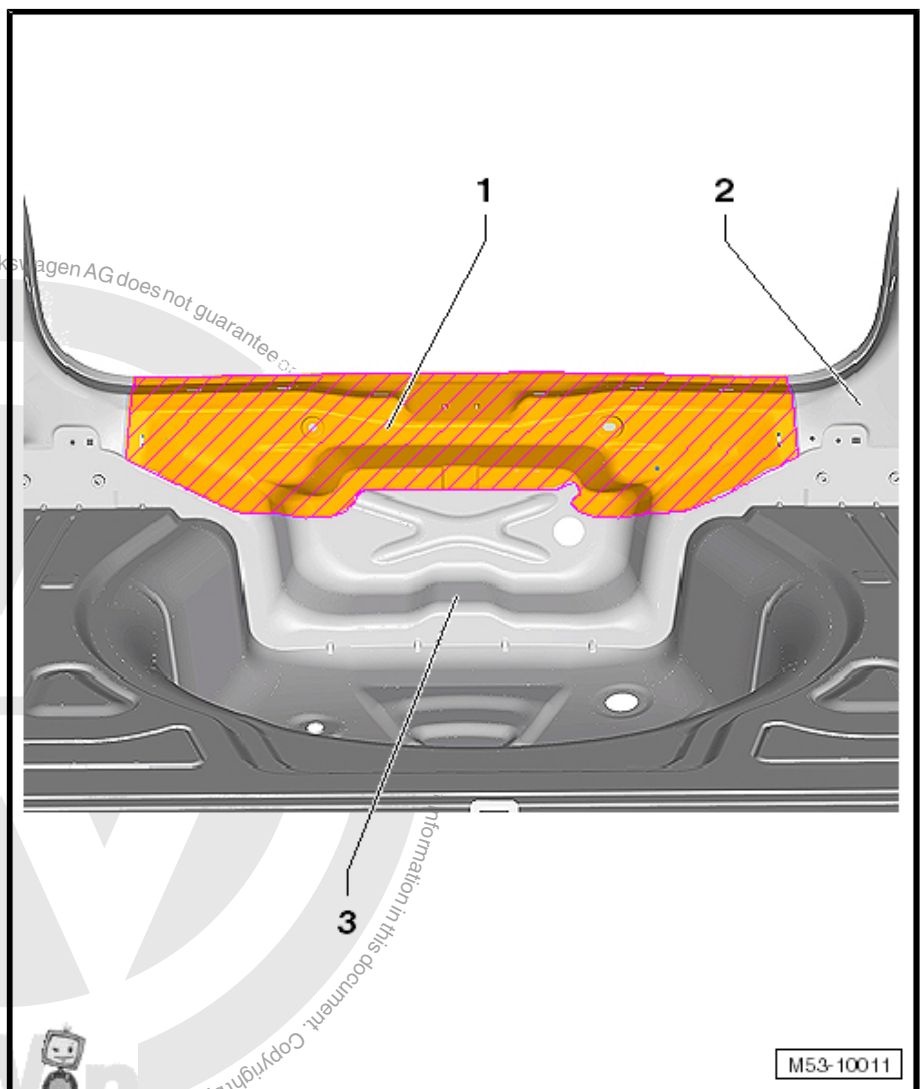


### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- 1 - Lock Carrier
- 2 - Inner D-Pillar
- 3 - Cross Panel





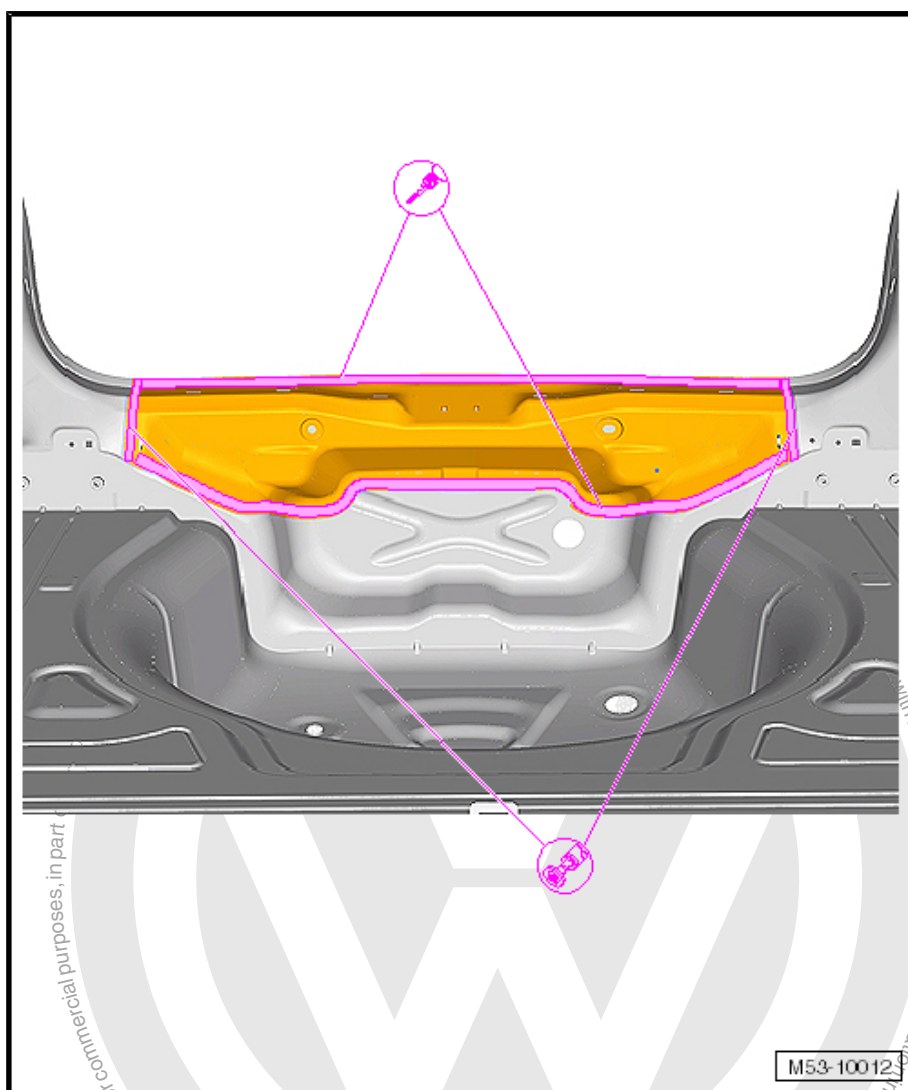
## 2.1 Tools



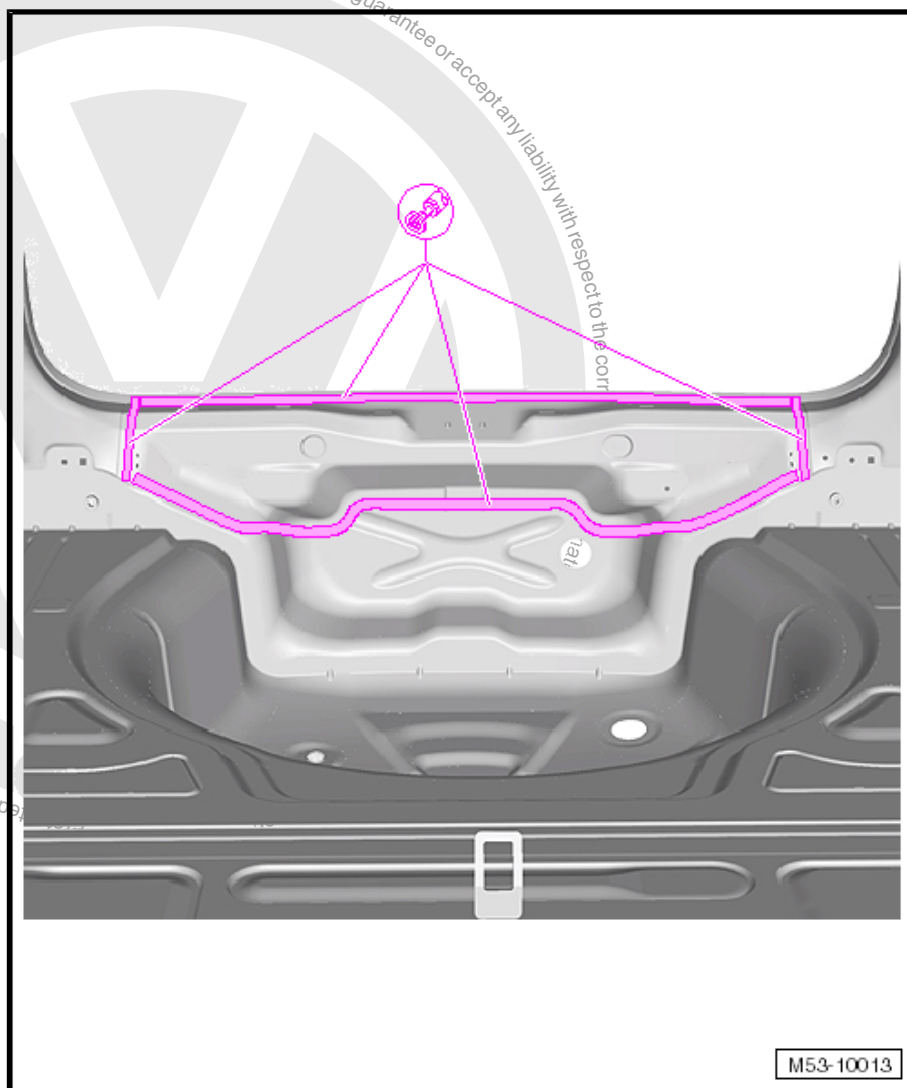
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 2.2 Removing



- Separate the original joint.



- Remove residual material.

## 2.3 Installing

⇒ [“2.3.1 Welding”, page 231](#)



### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“2.1 Tools”, page 230](#).*

### 2.3.1 Welding

#### Replacement Part

- ◆ Lock Carrier

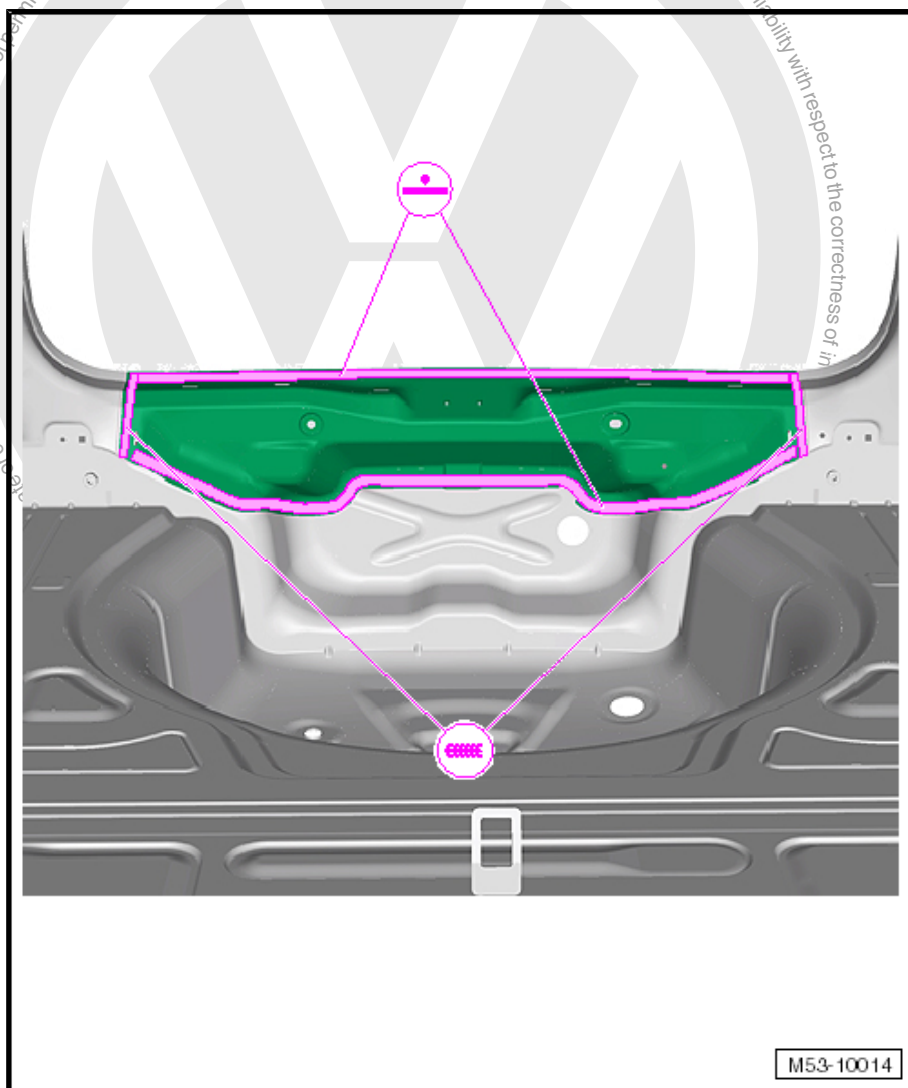


### Note

- ◆ *New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*
- ◆ *Align and secure new parts with vehicle standing on wheels or alignment bracket set.*
- Fit and secure the lock carrier.



- Check fit with attachments.
- Check rear lid closing function.



- Weld in lock carrier using a gas-shielded arc continuous weld seam and straight-line spot weld seam.





RO: 53 10 55 50

### 3 Tail Lamp Mount, Replacing

⇒ ["3.1 Tools", page 234](#)

⇒ ["3.2 Removing", page 234](#)

⇒ ["3.3 Installing", page 235](#)



#### WARNING

*Follow all safety precautions.*

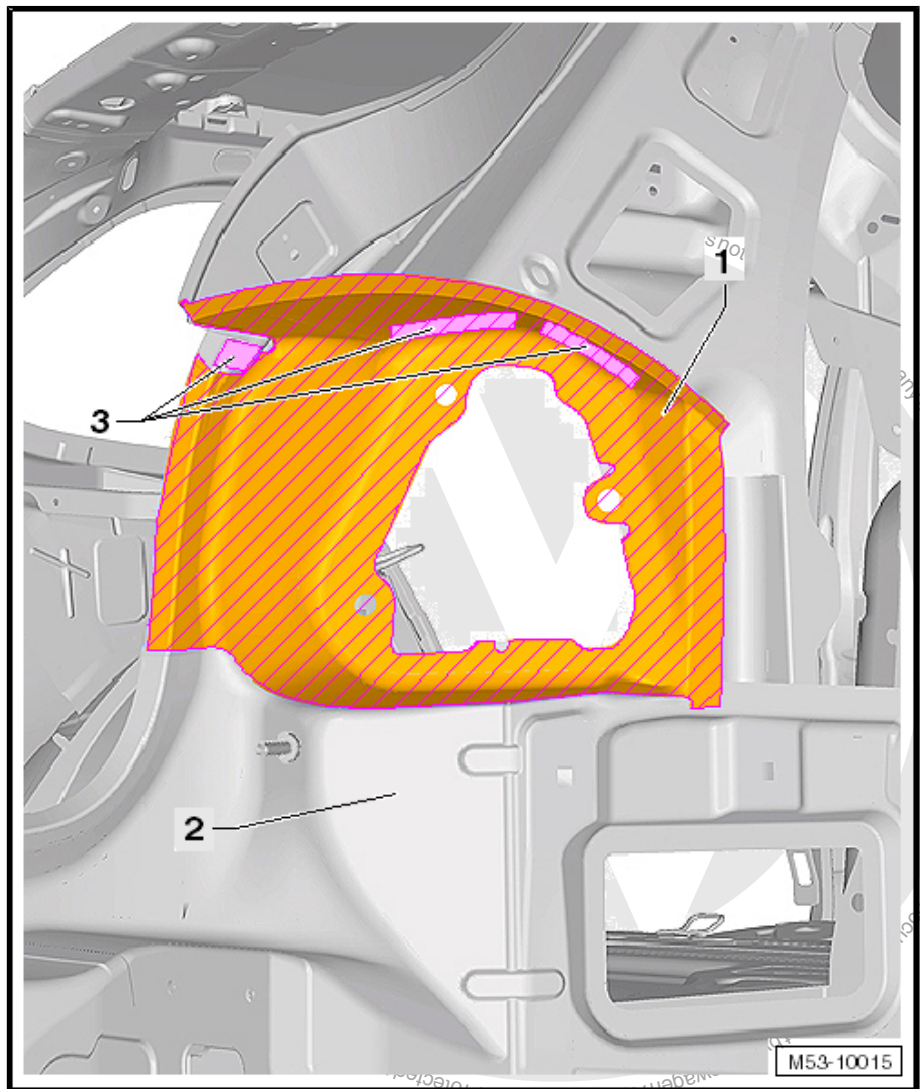
Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Side panel already removed, refer to  
⇒ ["10 Side Panel, Replacing Partial Section", page 278](#)

1 - Tail Lamp Mount

2 - Tail Lamp Connecting Plate

3 - Glued Area







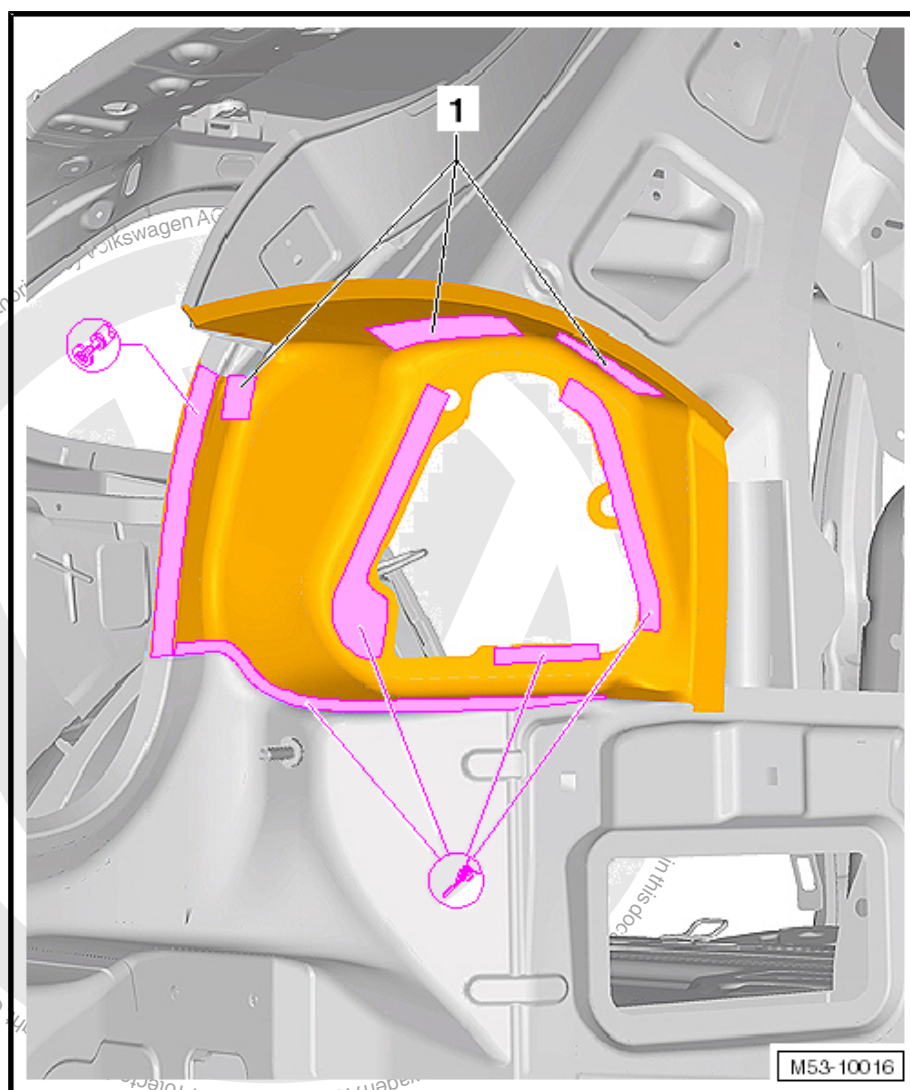
## 3.1 Tools



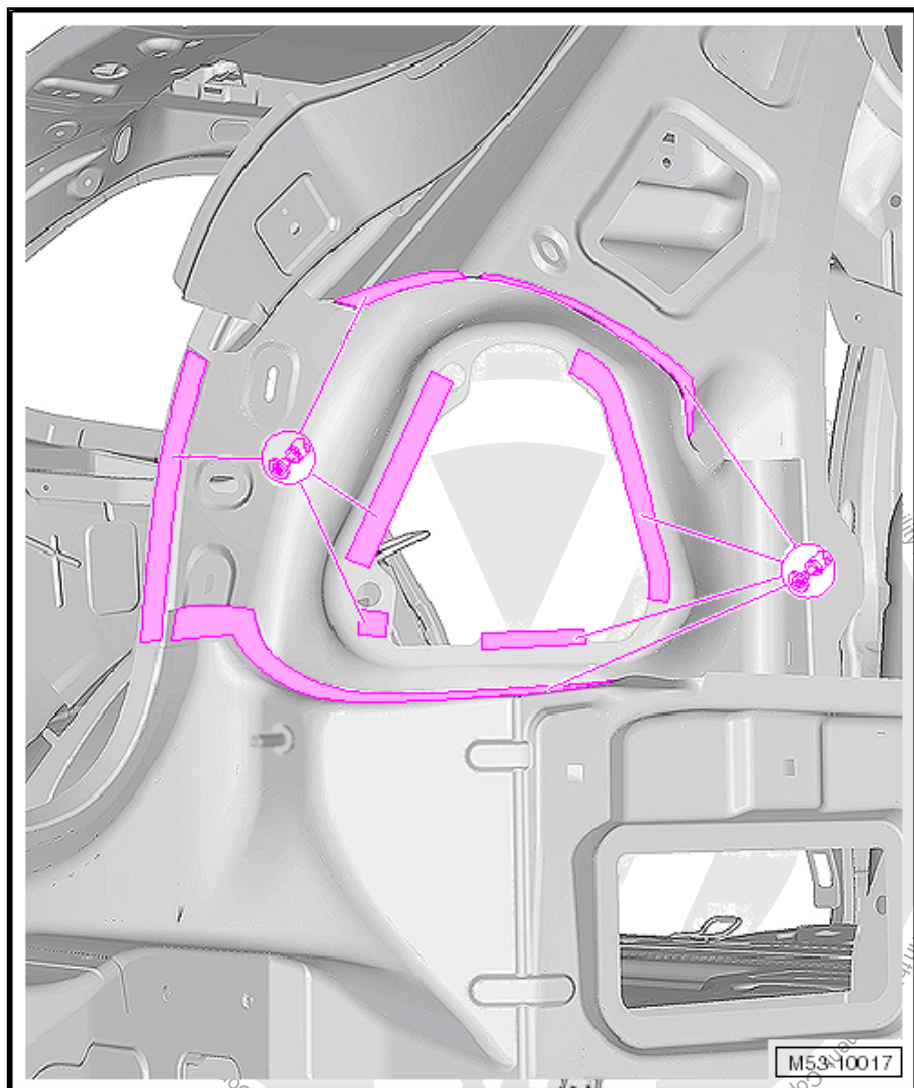
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 3.2 Removing



- Separate original joint.
- Disconnect the adhesive connections -1-.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 3.3 Installing

⇒ [“3.3.1 Preparing New Parts”, page 236](#)

⇒ [“3.3.2 Welding”, page 236](#)



#### Note

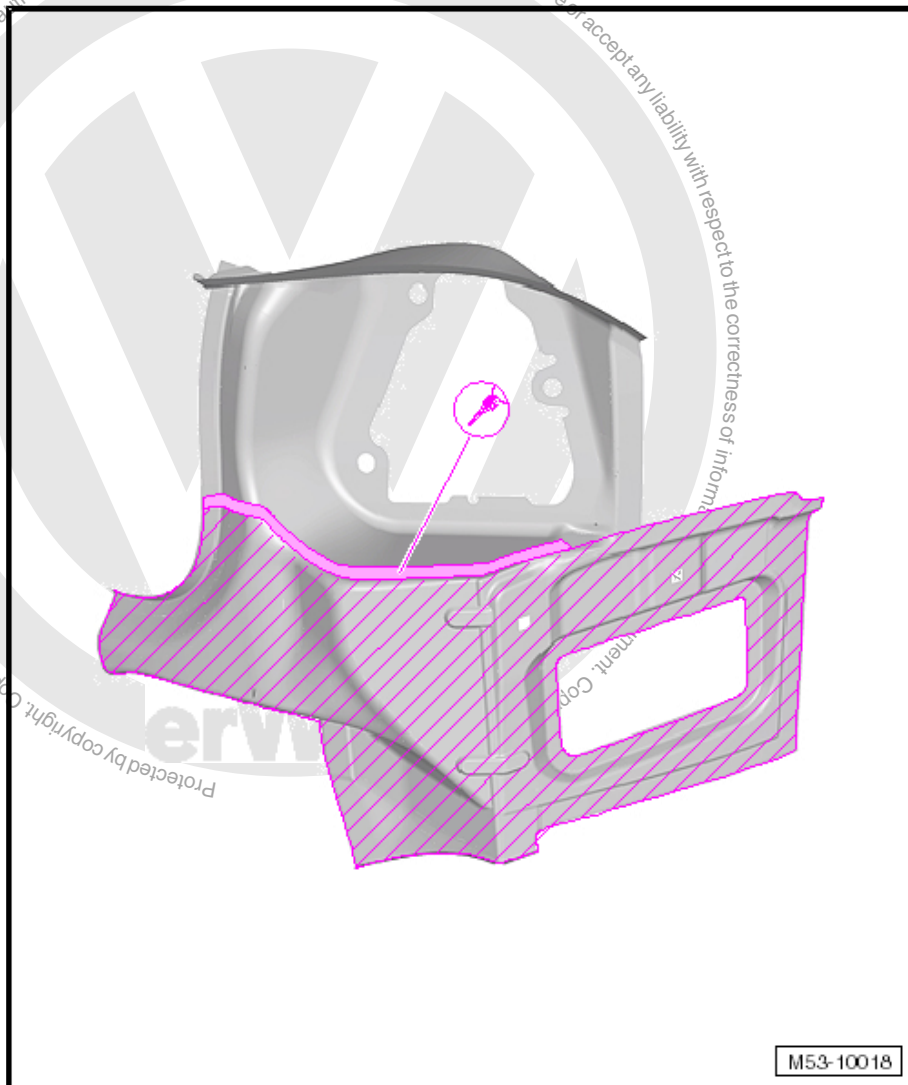
*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“3.1 Tools”, page 234](#).*



### 3.3.1 Preparing New Parts

#### Replacement Part

- ◆ Tail lamp mount



- Drill 7 mm holes for gas-shielded arc plug weld seam.

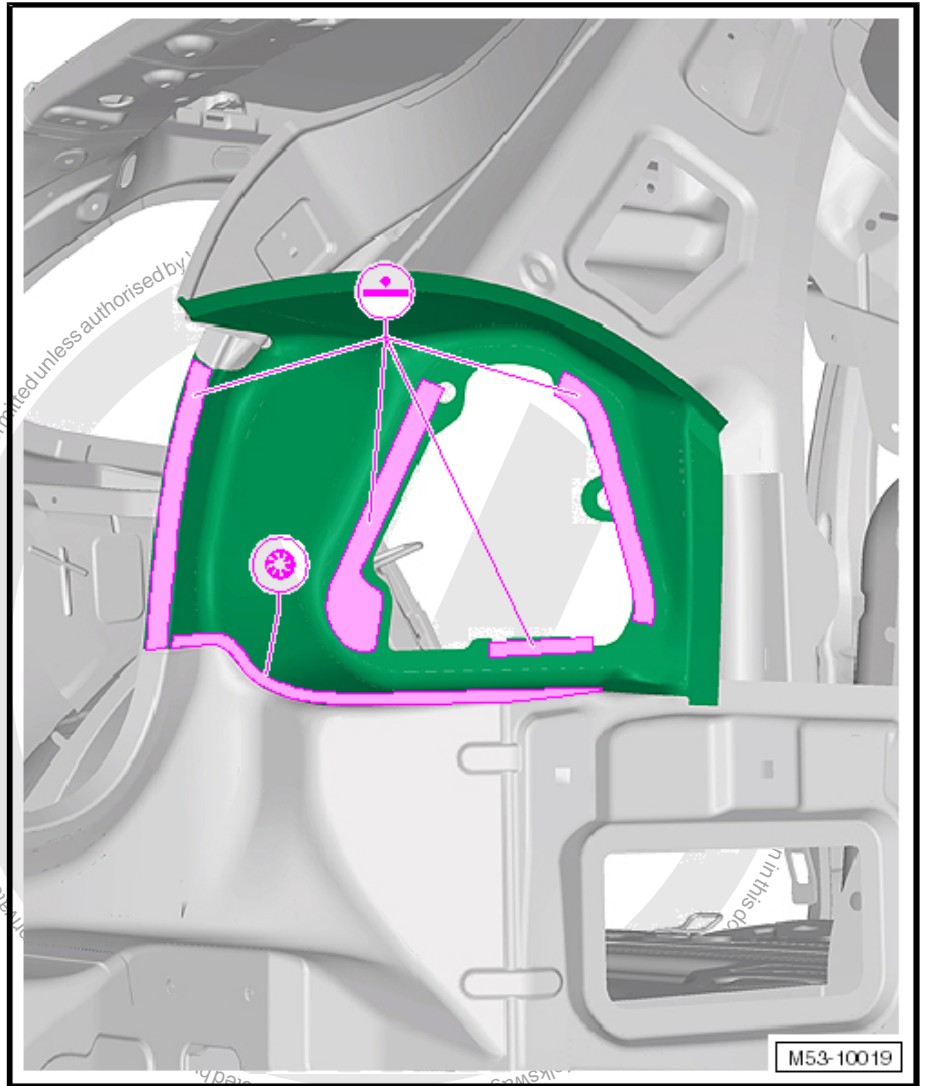
### 3.3.2 Welding



#### Note

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*

- Fit and secure the tail lamp assembly mount.
- Check fit with other components.
- Apply 2K Body Adhesive - D 180 003 M2- in the area where adhesive was applied during production.



- Weld in new parts using a gas-shielded arc plug weld seam and straight-line spot weld seam.
- Install the side panel, refer to [“10.3 Installing”, page 281](#) .





RO: 53 13 55 00

## 4 Tail Lamp Connecting Plate, Removing and Installing

⇒ "4.1 Tools", page 239

⇒ "4.2 Removing", page 239

⇒ "4.3 Installing", page 240



### WARNING

*Follow all safety precautions.*

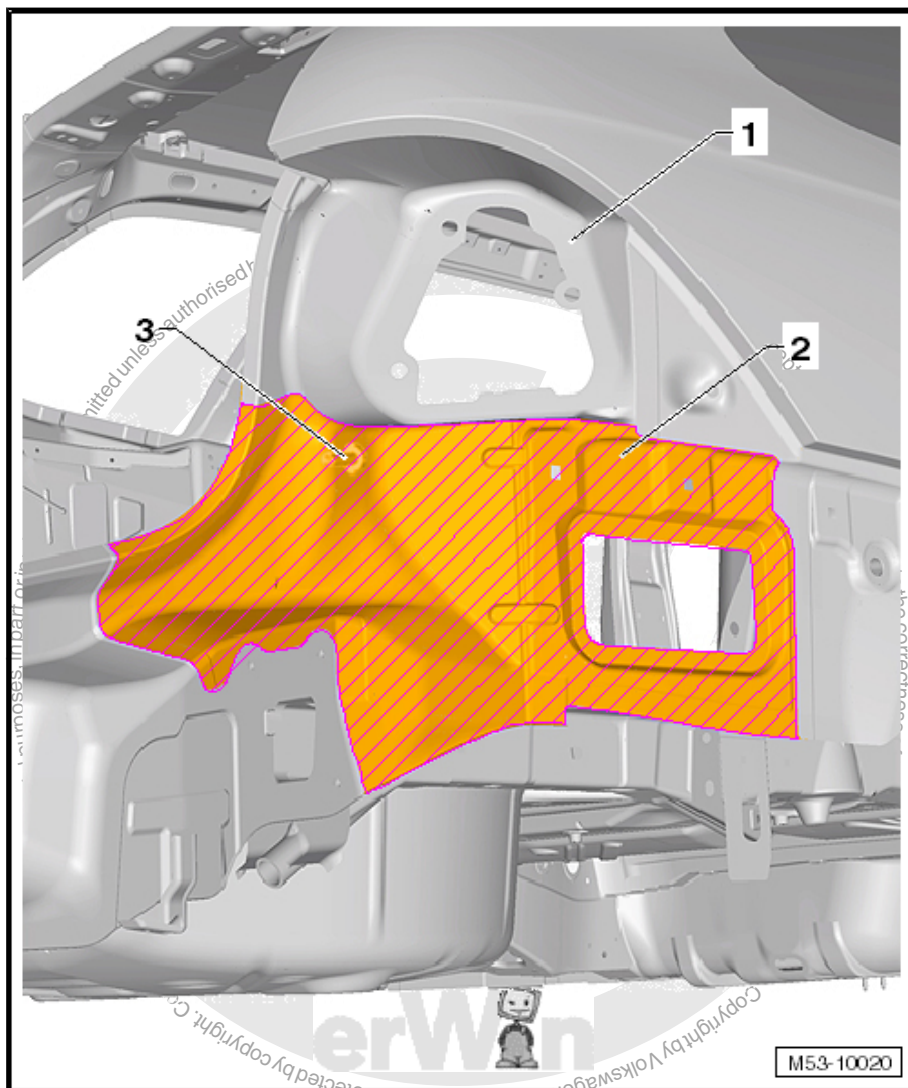
Refer to ⇒ General Information; Body Repairs, Body Collision Repair

1 - Tail lamp mount

2 - Tail lamp connecting plate

3 - Weld screw

- ☐ Not installed on the new part
- ☐ Weld screw, installing, refer to  
⇒ "4.3.3 Weld Screw, Installing", page 243





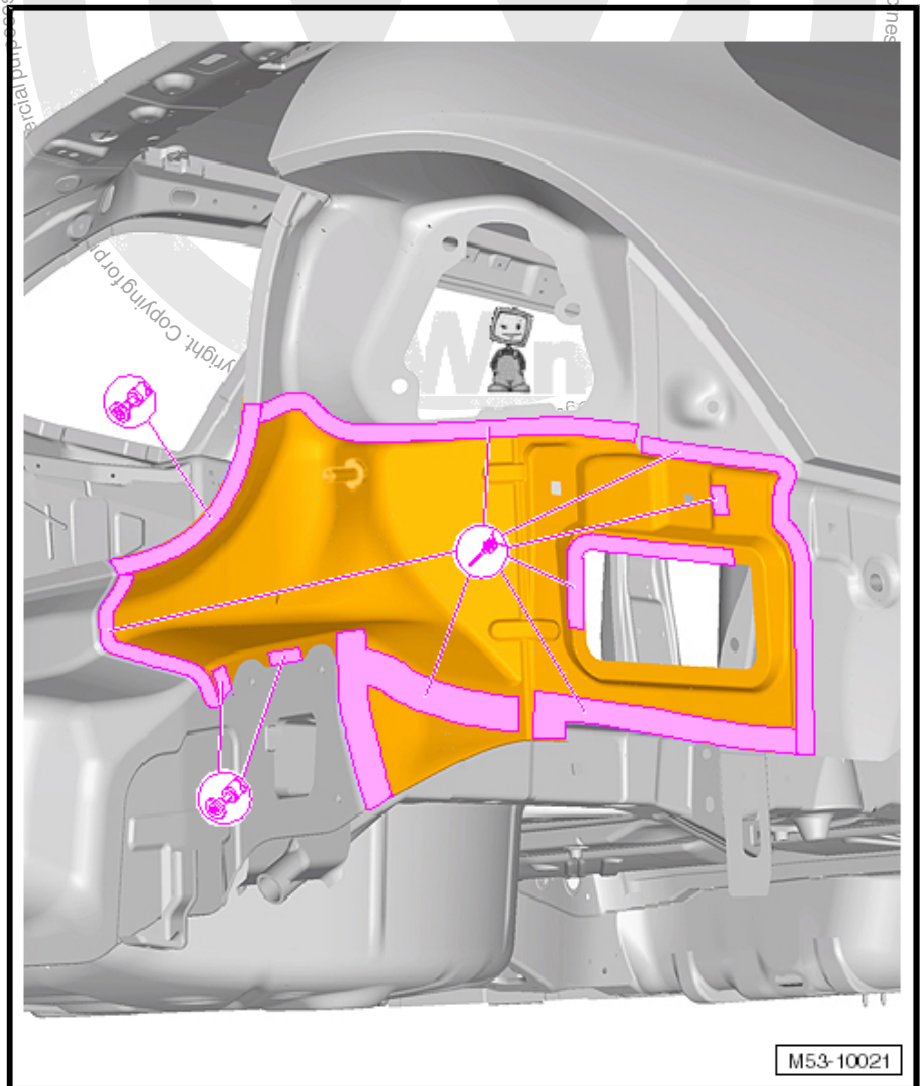
## 4.1 Tools



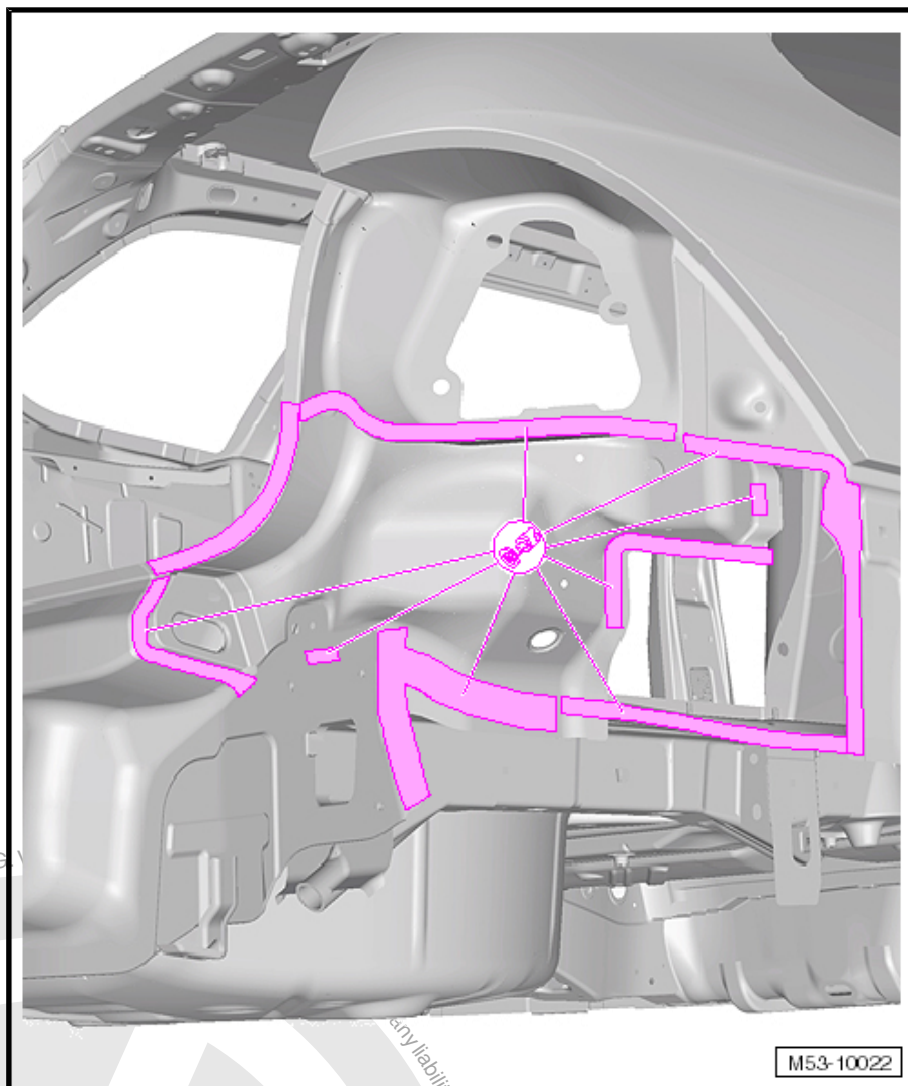
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to ⇒ ServiceNet, Workshop Equipment, V.A.G Workshop Equipment Catalog, Body/Paint.

## 4.2 Removing



- Separate original joint.



Remove remaining pieces.

### 4.3 Installing

⇒ ["4.3.1 Preparing New Parts", page 240](#)

⇒ ["4.3.2 Welding", page 241](#)

⇒ ["4.3.3 Weld Screw, Installing", page 243](#)



#### Note

Use only welding equipment approved by Volkswagen AG, refer to ["4.1 Tools", page 239](#).

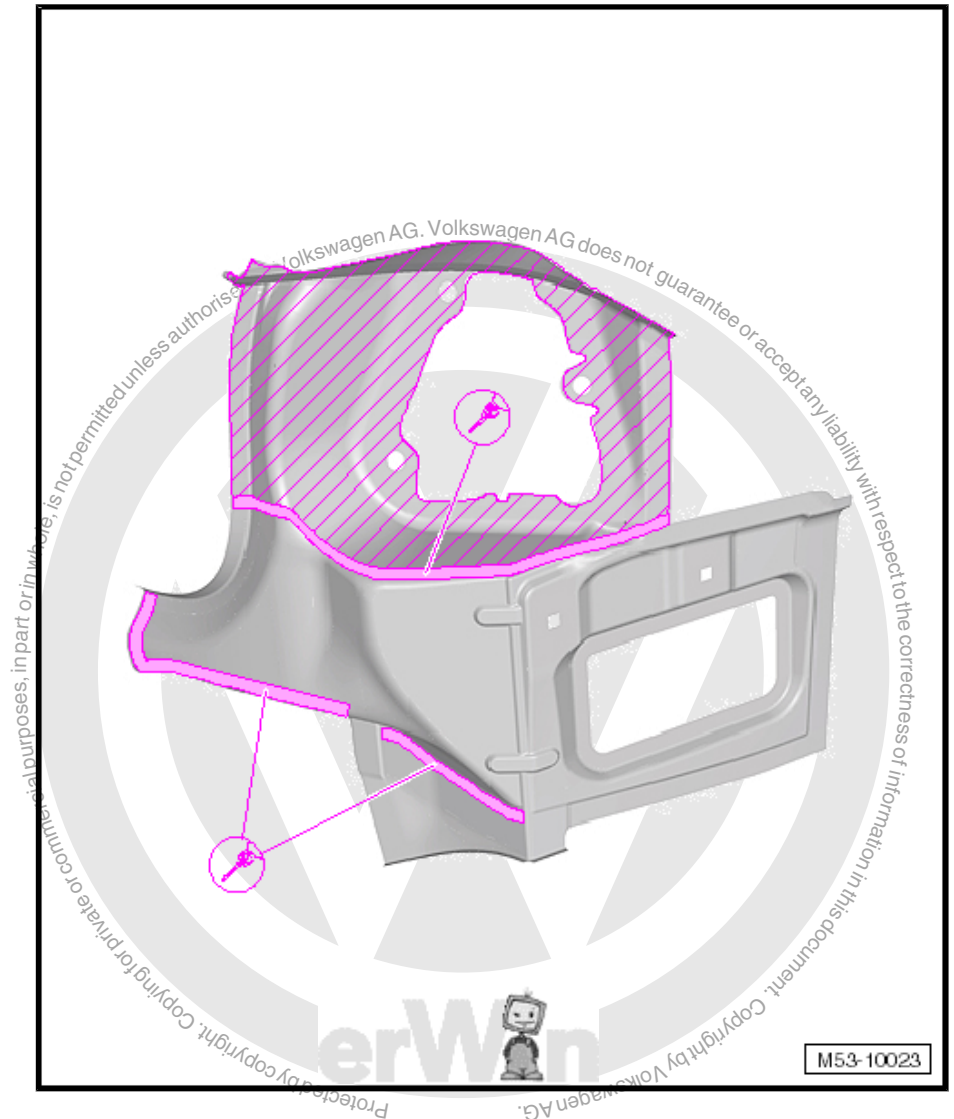
### 4.3.1 Preparing New Parts

#### Replacement Part

- ◆ Tail lamp connecting plate







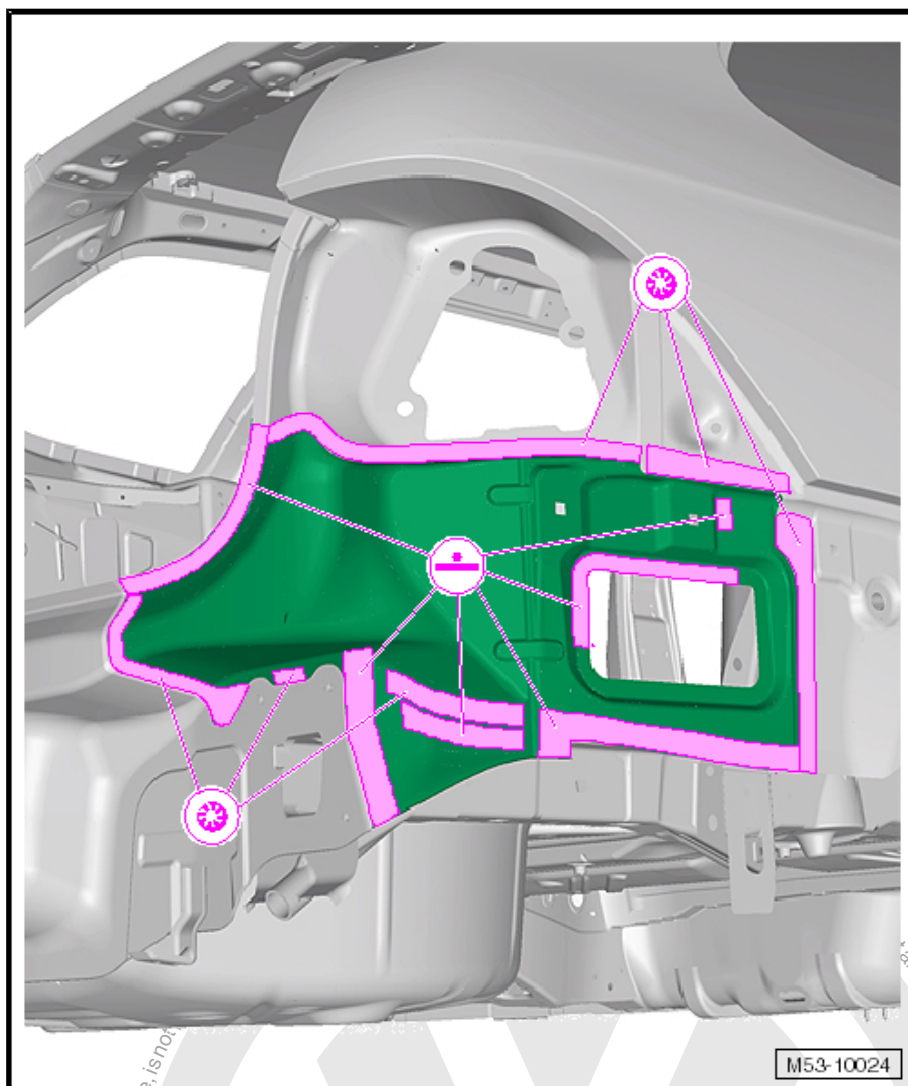
- Drill diameter 7 mm holes in the rear cross panel tail lamp for the gas shielded arc plug weld seam.

#### 4.3.2 Welding

- Fit and secure the rear cross panel tail lamp.



- Check fit with other components.



- Weld in new part, Gas-shielded arc plug weld seam and straight-line spot weld seam.

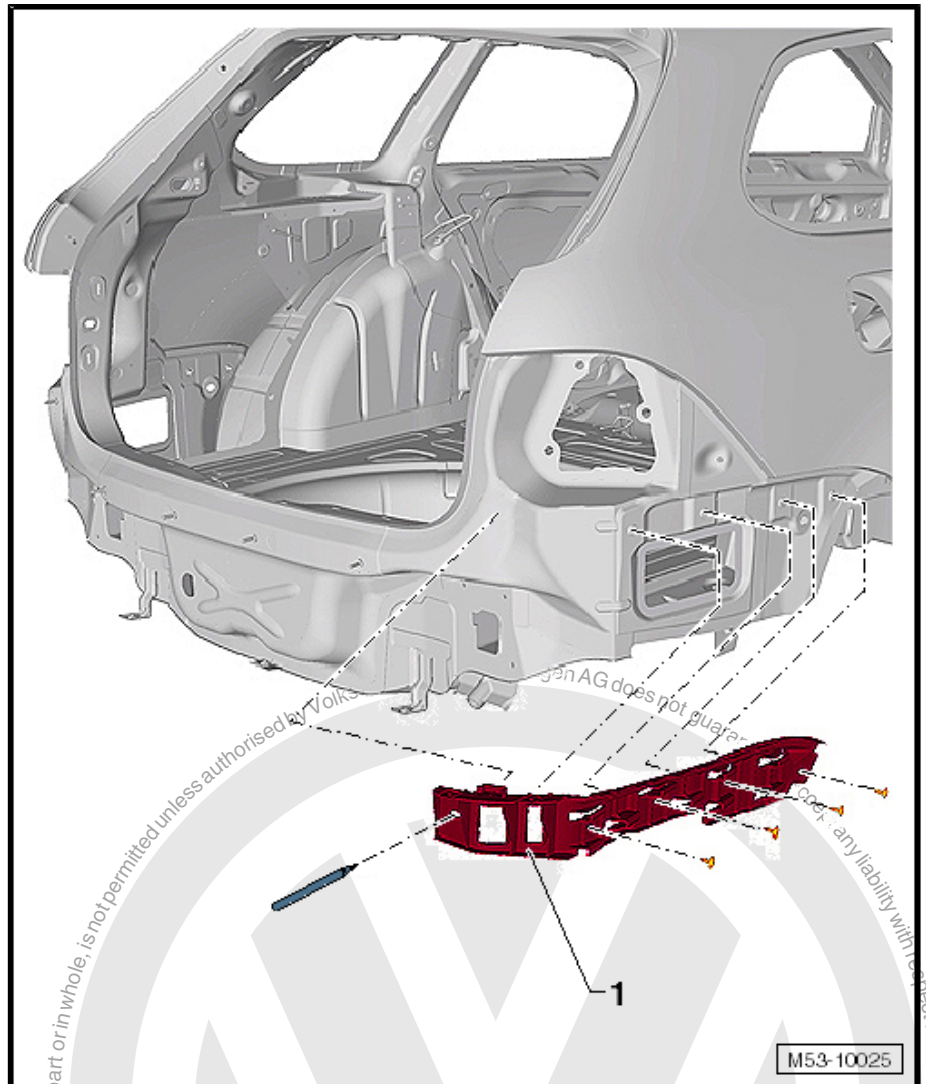


**Note**

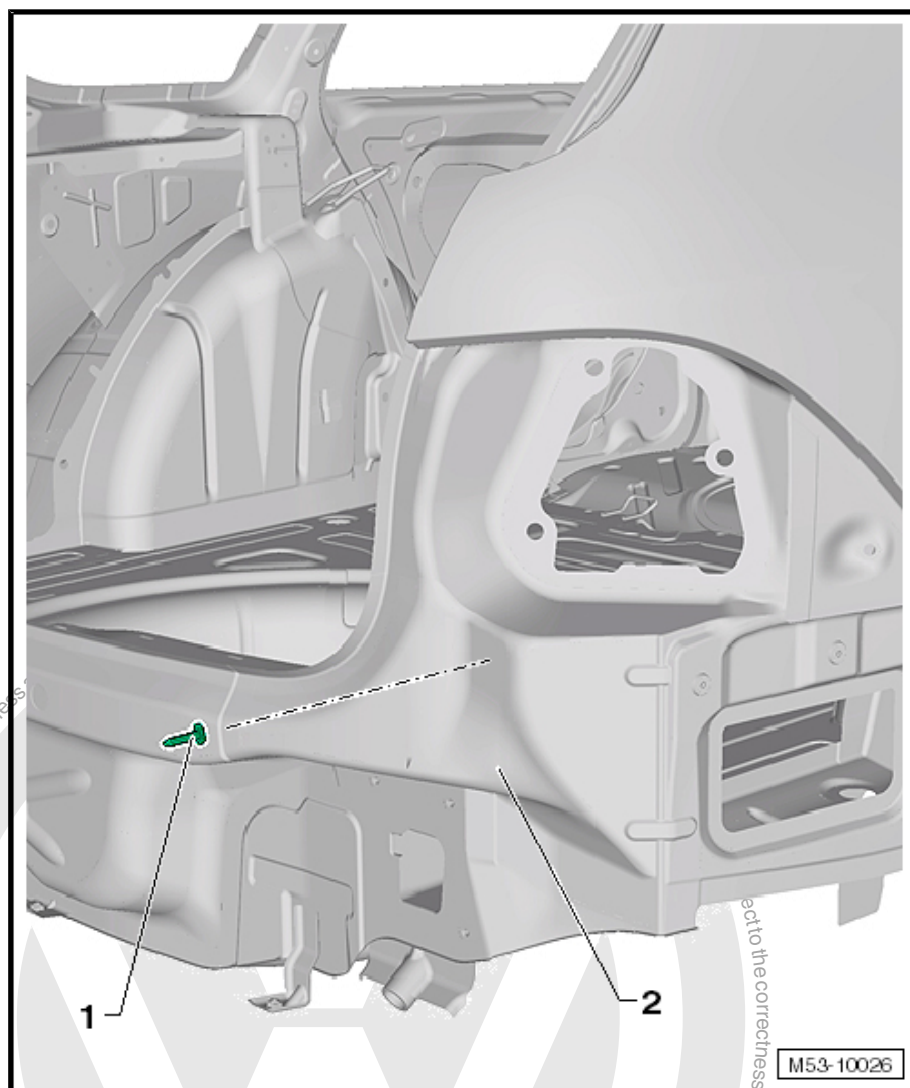
*The weld screw for installing the bumper cover guide strip is not on the tail lamp connecting plate, it must be added later, refer to [⇒ "4.3.3 Weld Screw, Installing", page 243](#)*



### 4.3.3 Weld Screw, Installing



- Use the bumper cover guide strip -1- to mark the position of the weld screw correctly.



- Weld the weld screw -1- to the position marked on the tail lamp connecting plate -2-



RO: 53 24 55 50

## 5 Luggage Compartment Floor, Removing and Installing

⇒ ["5.1 Tools", page 246](#)

⇒ ["5.2 Removing", page 247](#)

⇒ ["5.3 Installing", page 248](#)



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

⇒ General Information; Body Repairs, Body Collision Repair

Cross panel already removed, refer to

⇒ ["1 Cross Panel, Replacing", page 218](#)

The tail lamp connecting plate is already removed, refer to

⇒ ["4 Tail Lamp Connecting Plate, Removing and Installing", page 238](#)





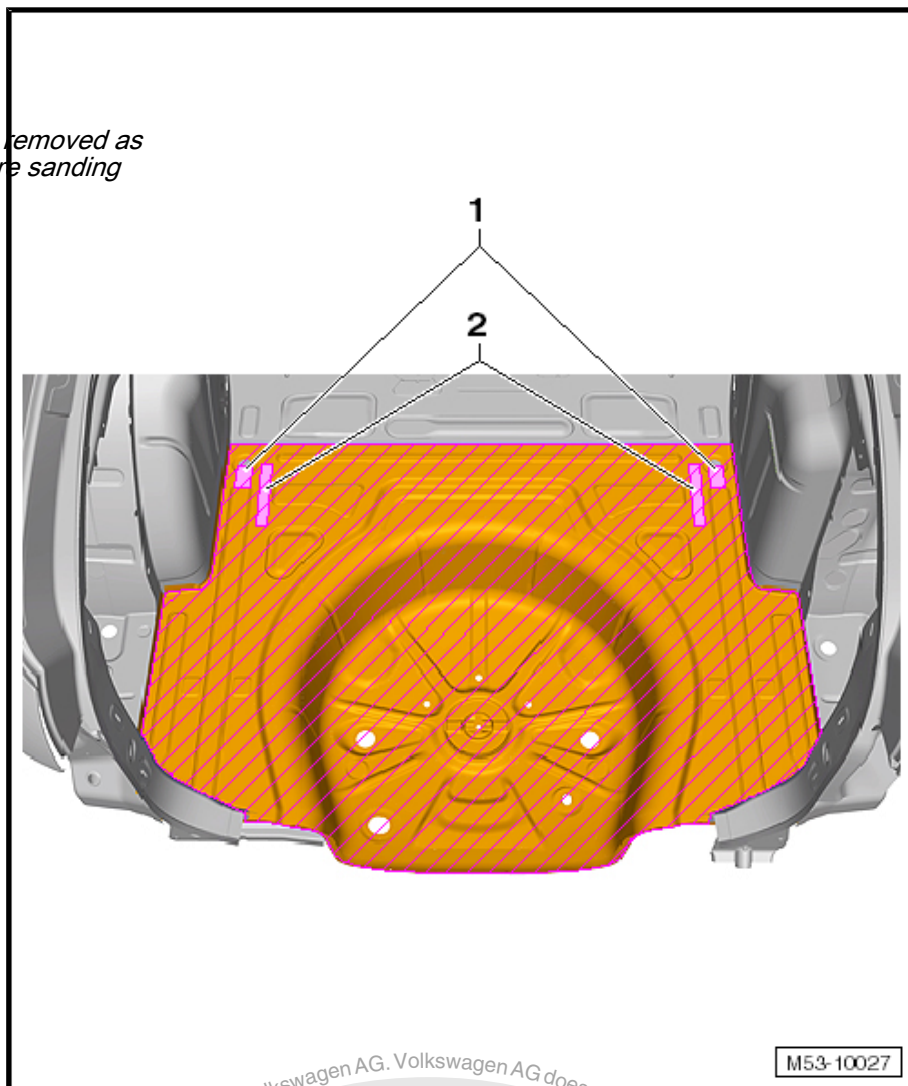
## 1 - Molded Foam Part



### Note

*Foam residue must be removed as much as possible before sanding work.*

## 2 - Glued Area



## 5.1 Tools



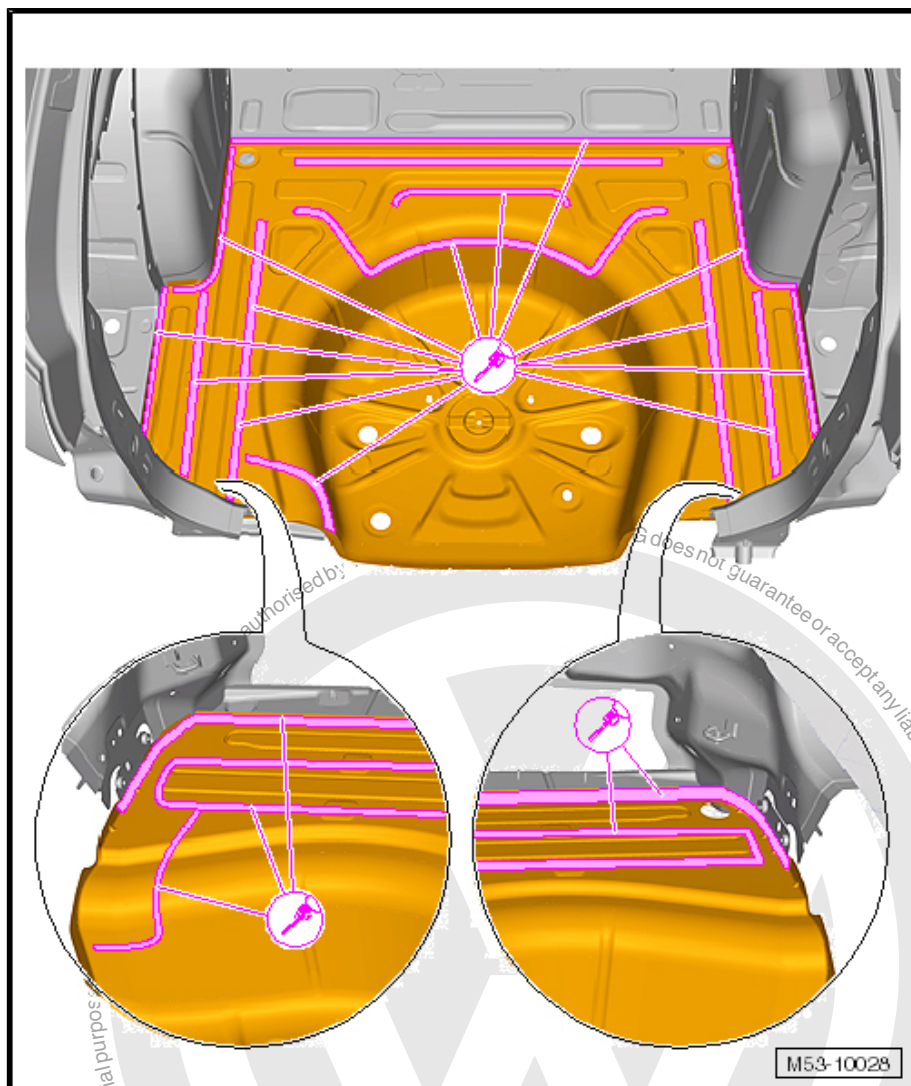
### Note

- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*



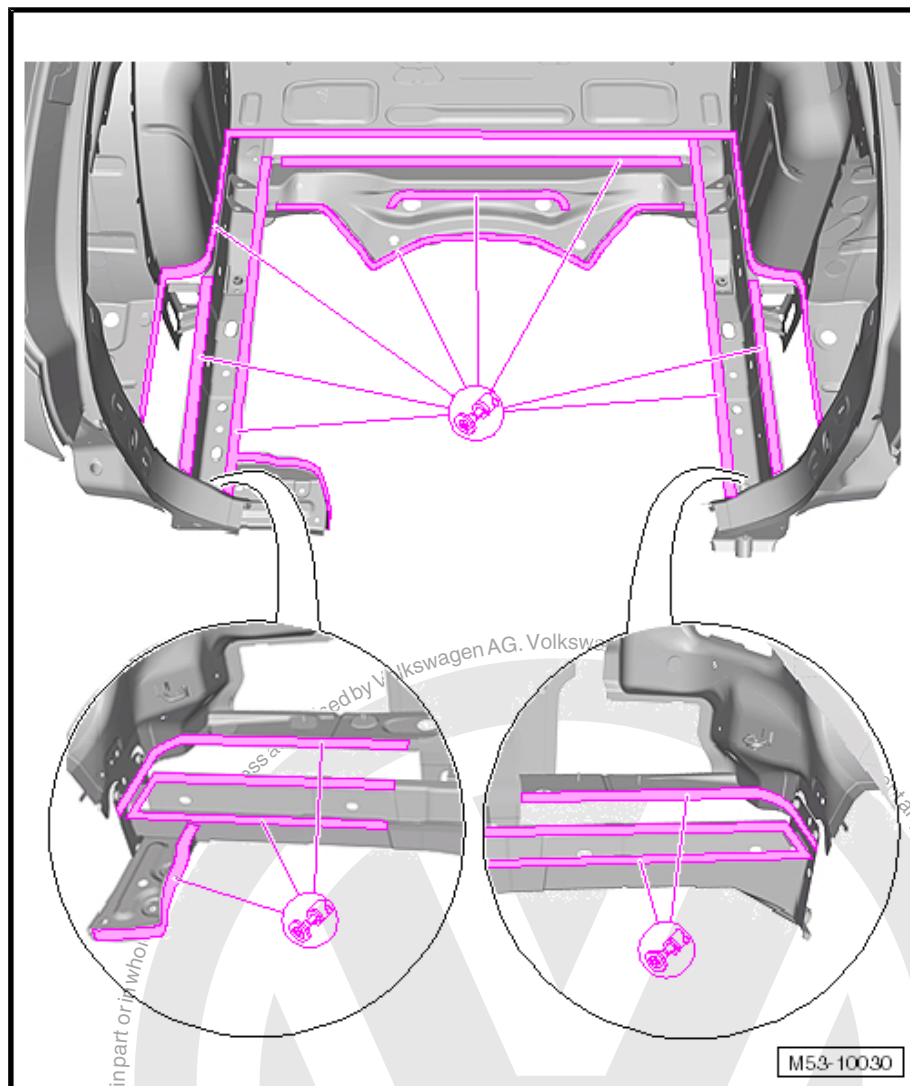


## 5.2 Removing



- Open the original joint on the longitudinal members and the wheel housings.





- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 5.3 Installing

⇒ [“5.3.1 Preparing New Parts”, page 249](#)

⇒ [“5.3.2 Molded Foam Parts”, page 249](#)

⇒ [“5.3.3 Welding”, page 249](#)



#### Note

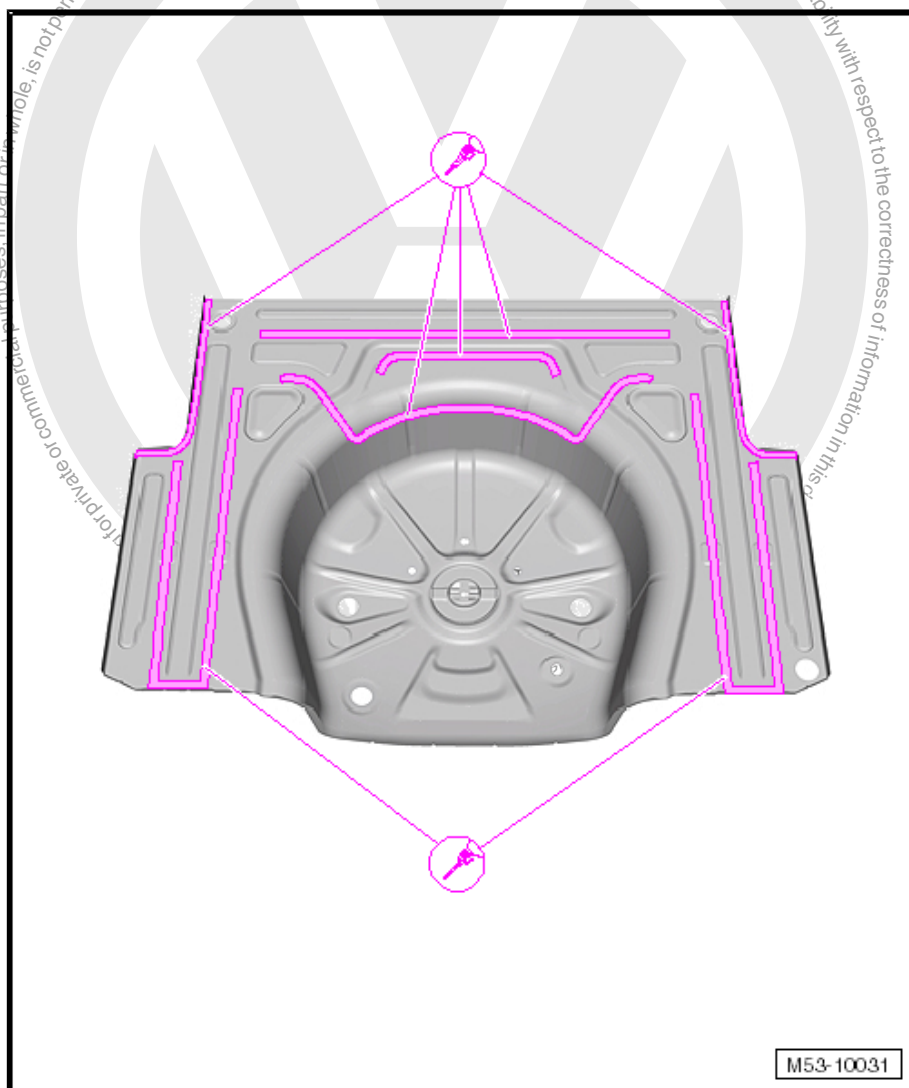
Use only welding equipment approved by Volkswagen AG, refer to [“5.1 Tools”, page 246](#).



### 5.3.1 Preparing New Parts

#### Replacement Part

- ◆ Rear floor panel
- ◆ Molded Foam Part
- ◆ 2K Body Adhesive - D 180 003 M2-



- Drill holes for gas-shielded arc plug weld seam, diameter 7 mm (distance approx. 20 mm).

### 5.3.2 Molded Foam Parts

#### Observe repair notes.

Molded foam part, refer to ⇒ General Information; Body Repairs, Body Collision Repair

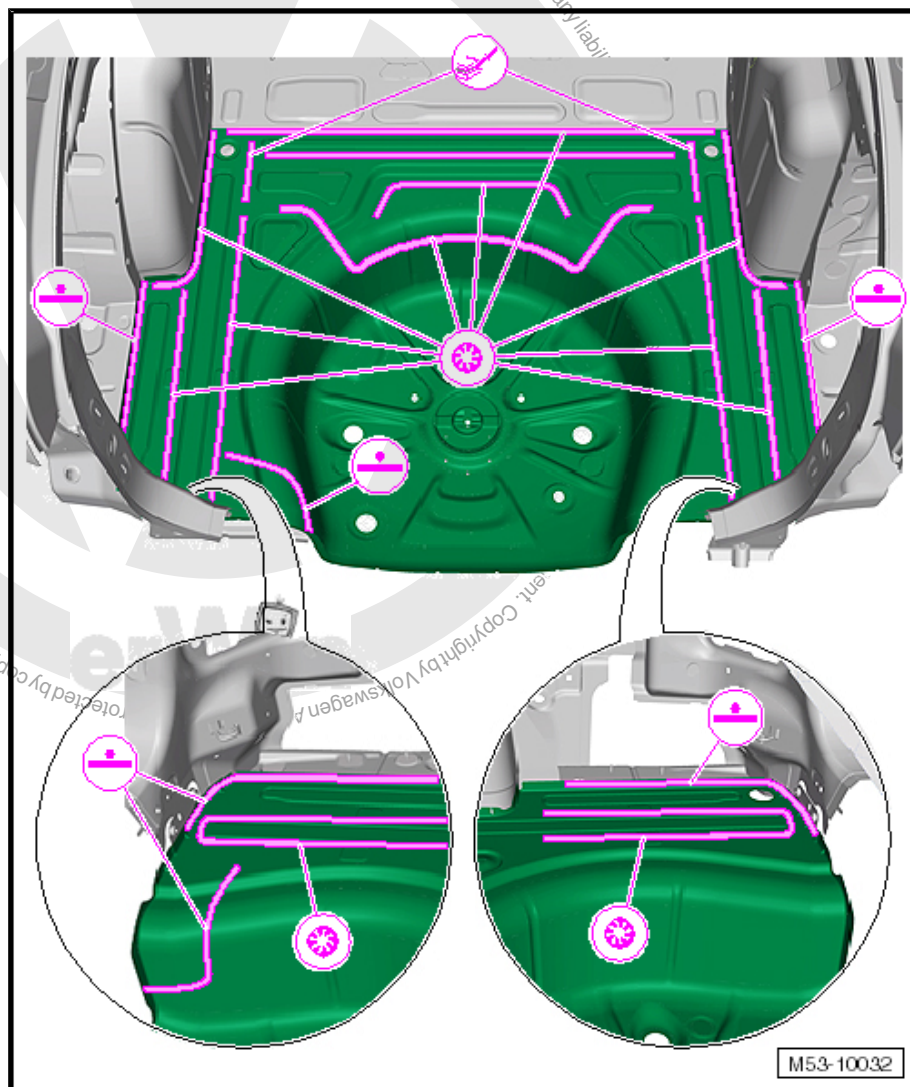
### 5.3.3 Welding

- Install new part with vehicle standing on the alignment bracket set and affix it in place.
- Check fit with neighboring components.



**Note**

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*



- Apply 2K Body Adhesive - D 180 003 M2- in the area where adhesive was applied during production.
- Weld the new piece with a gas-shielded arc plug weld seam and a straight-line spot weld seam.

Install the cross panel, refer to [⇒ "1.3 Installing", page 222](#) .

Install the tail lamp connecting plate, refer to [⇒ "4.3 Installing", page 240](#) .



RO: 53 29 55 50

## 6 C-Pillar Reinforcement, Replacing Partial Section

⇒ ["6.1 Tools", page 252](#)

⇒ ["6.2 Removing", page 253](#)

⇒ ["6.3 Installing", page 255](#)

Includes: Fuel Cap Insert Cup



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Side panel already removed, refer to  
⇒ ["10 Side Panel, Replacing Partial Section", page 278](#)

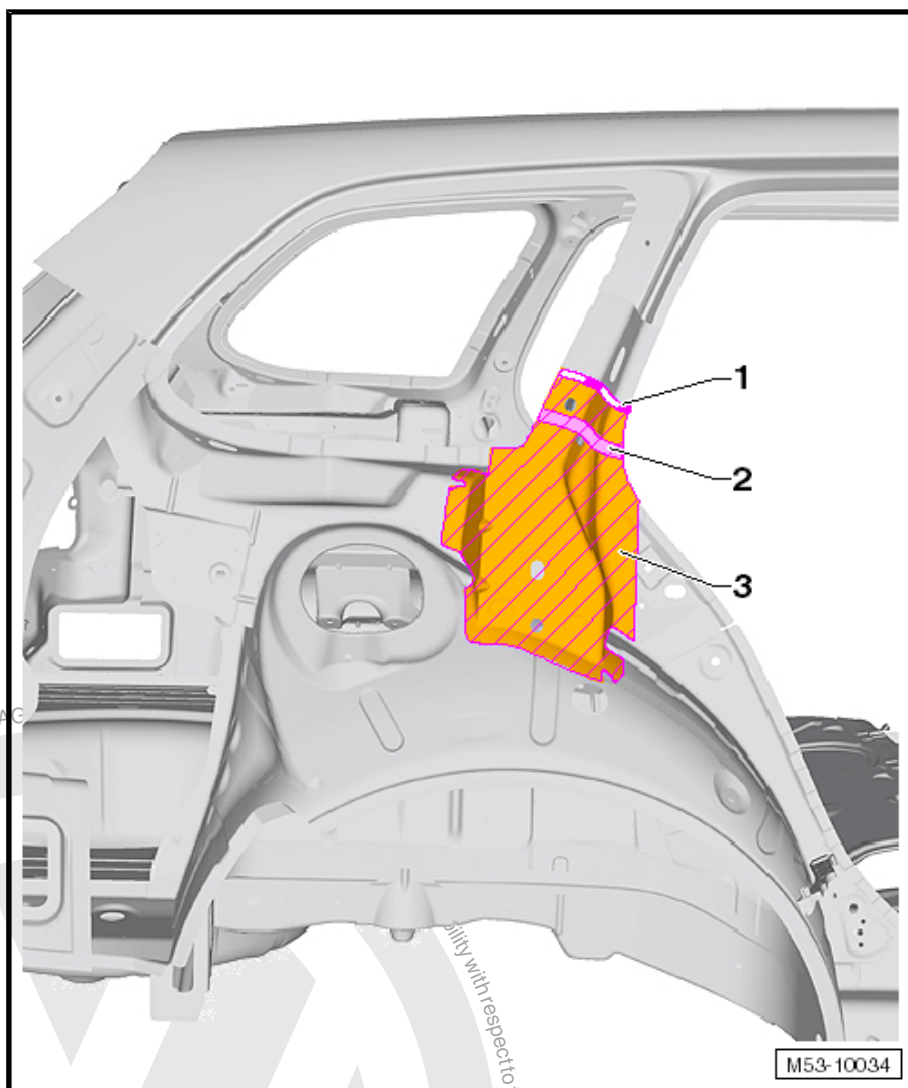


### Note

*To provide a better illustration, the fuel filler cap insert cup is not pictured.*



- 1 - Separating Cut
- 2 - Molded Foam Part
- 3 - C-Pillar Reinforcement



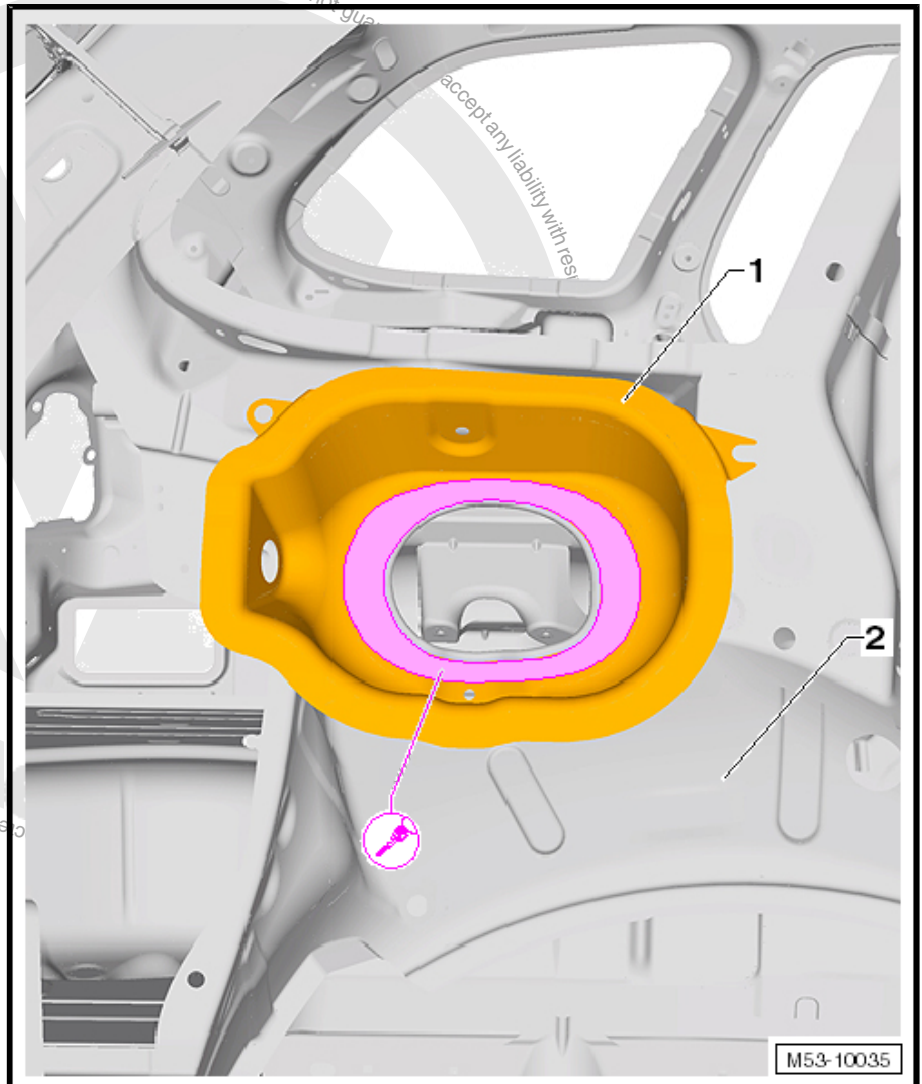
## 6.1 Tools



### Note

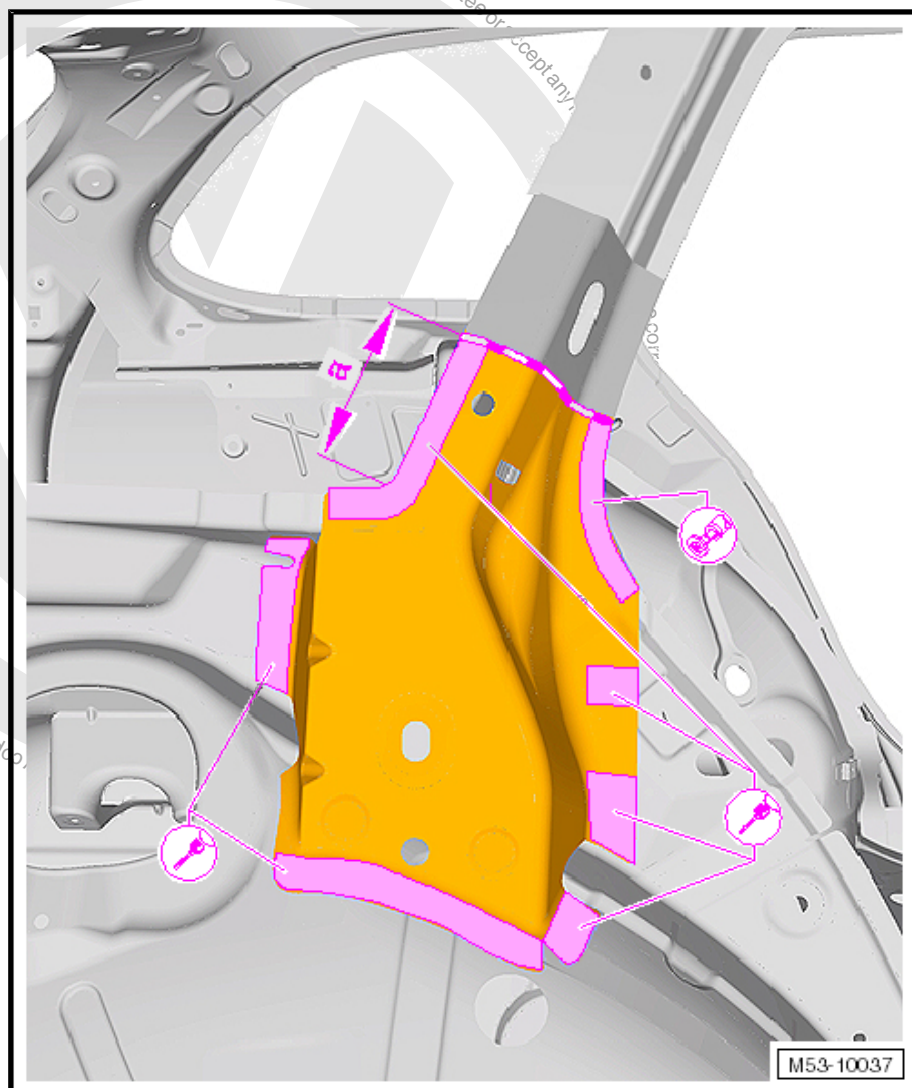
- ◆ *Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.*
- ◆ *For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.*

## 6.2 Removing



- Loosen the original bond between the tank lid insert cup -1- and the outer wheel housing liner -2-.



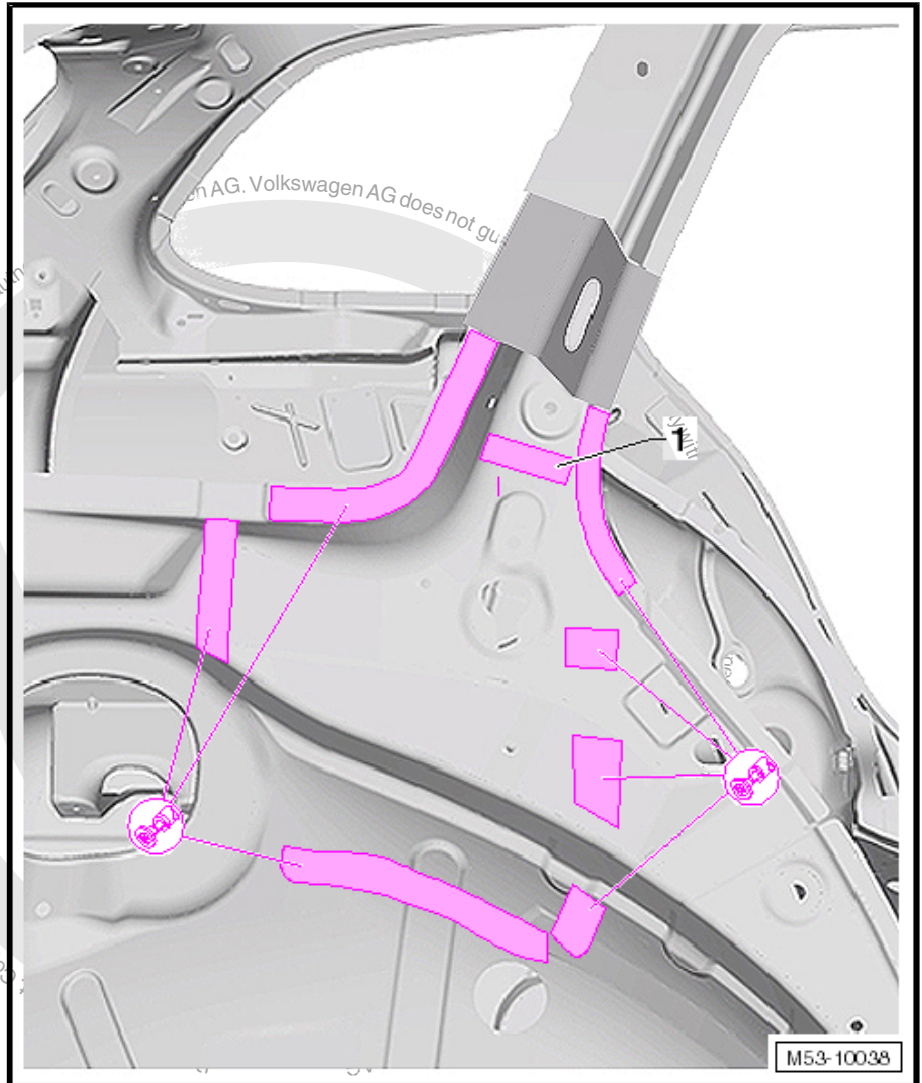


- Perform separating cut as shown.

**Dimension -a- = 100 mm.**

- Separate original joint.





Molded foam part -1-

- Remove remaining pieces.

## 6.3 Installing

⇒ ["6.3.1 Preparing New Parts", page 255](#)

⇒ ["6.3.2 Molded Foam Parts", page 256](#)

⇒ ["6.3.3 Welding", page 256](#)



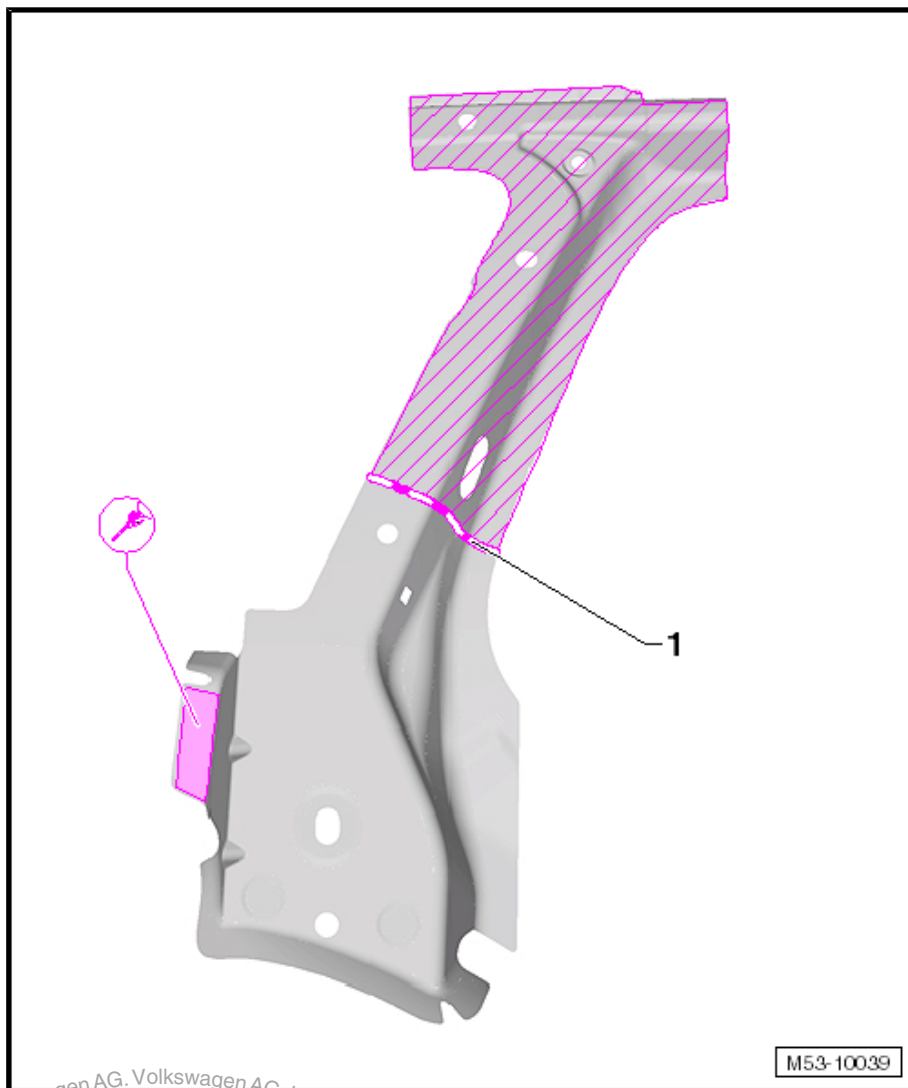
### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["6.1 Tools", page 252](#).*

## 6.3.1 Preparing New Parts

### Replacement Part

- ◆ C-pillar reinforcement
- ◆ Molded Foam Part
- ◆ Tank lid insert cup



- Transfer separating cut -1- on to new part and cut.
- Drill holes for gas-shielded arc plug weld seam, diameter 7 mm.

### 6.3.2 Molded Foam Parts

Observe repair notes.

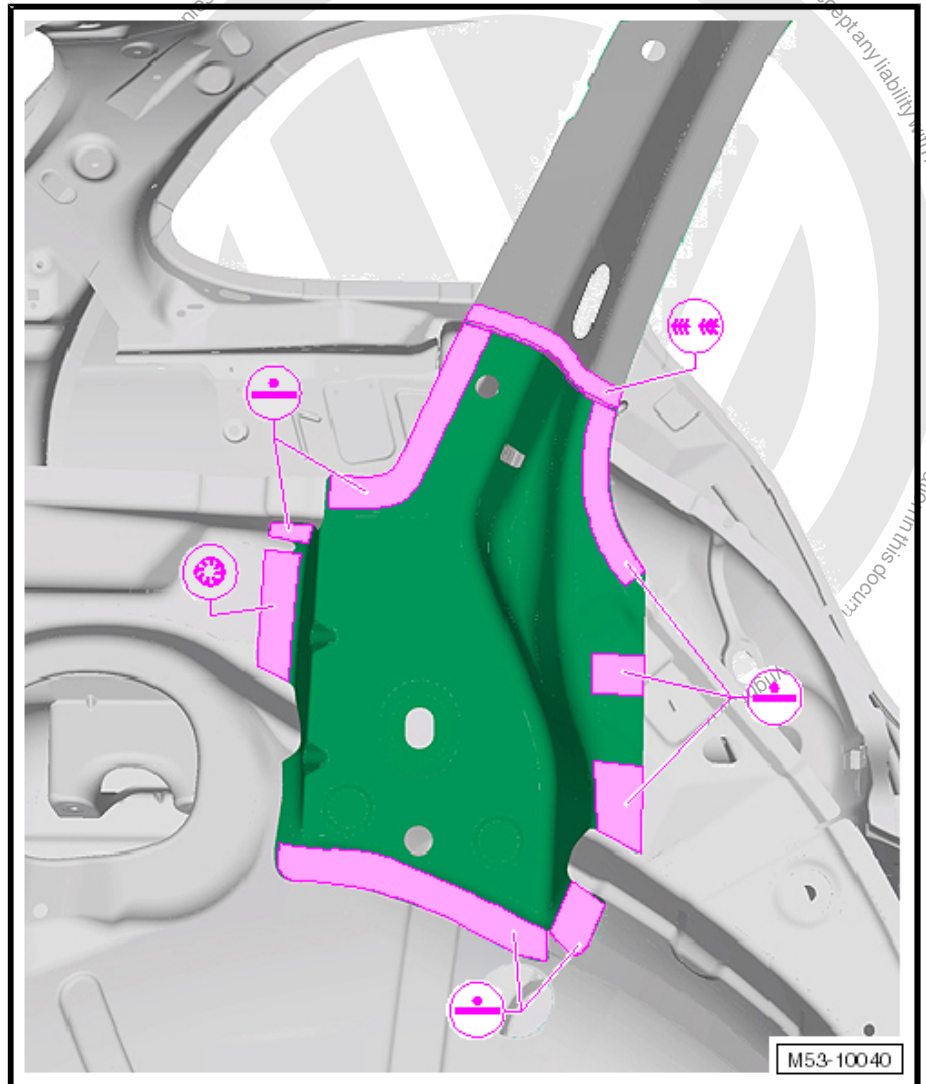
Molded foam part, refer to ⇒ General Information; Body Repairs, Body Collision Repair

### 6.3.3 Welding

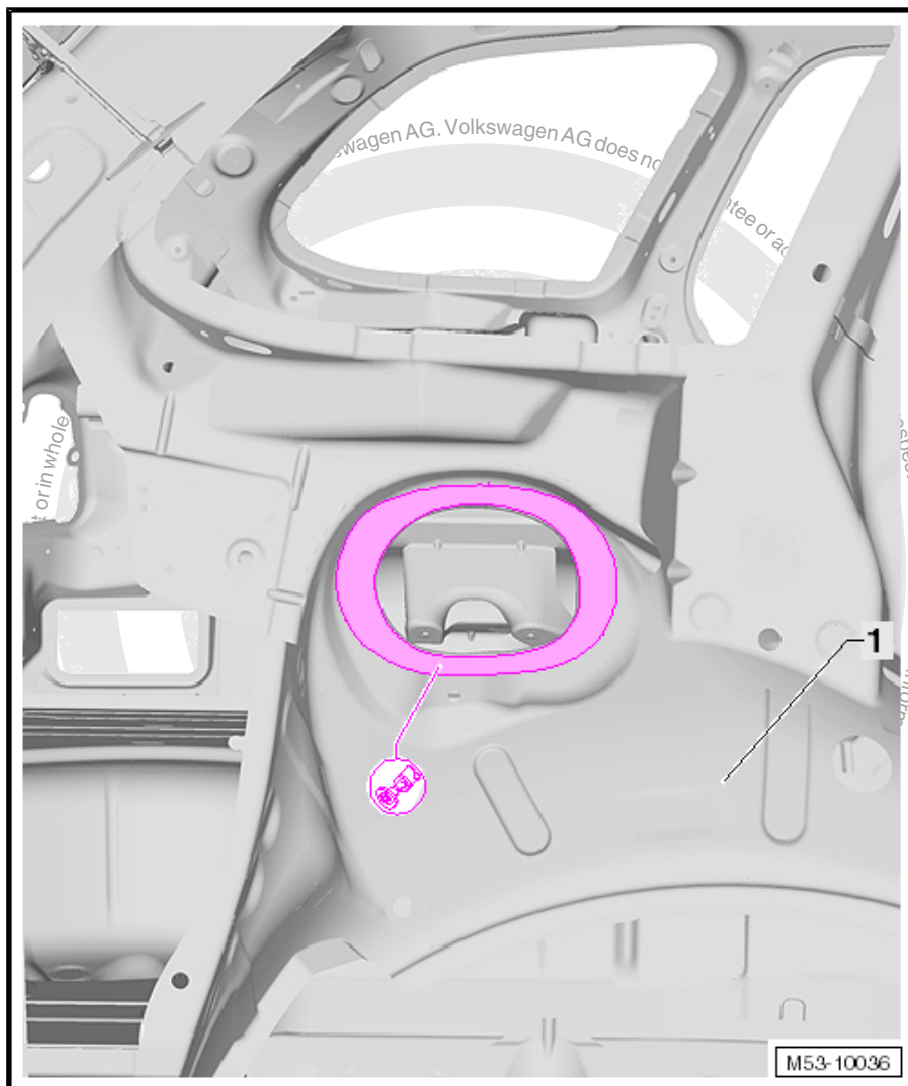
- Fit the C-pillar reinforcement to the alignment bracket set with vehicle standing on its wheels and secure.



- Check fit with side panel.



- Weld the C-pillar reinforcement, straight line spot weld seam and gas shielded arc plug weld seam.
- Weld the separating cut using a gas-shielded arc continuous weld seam.

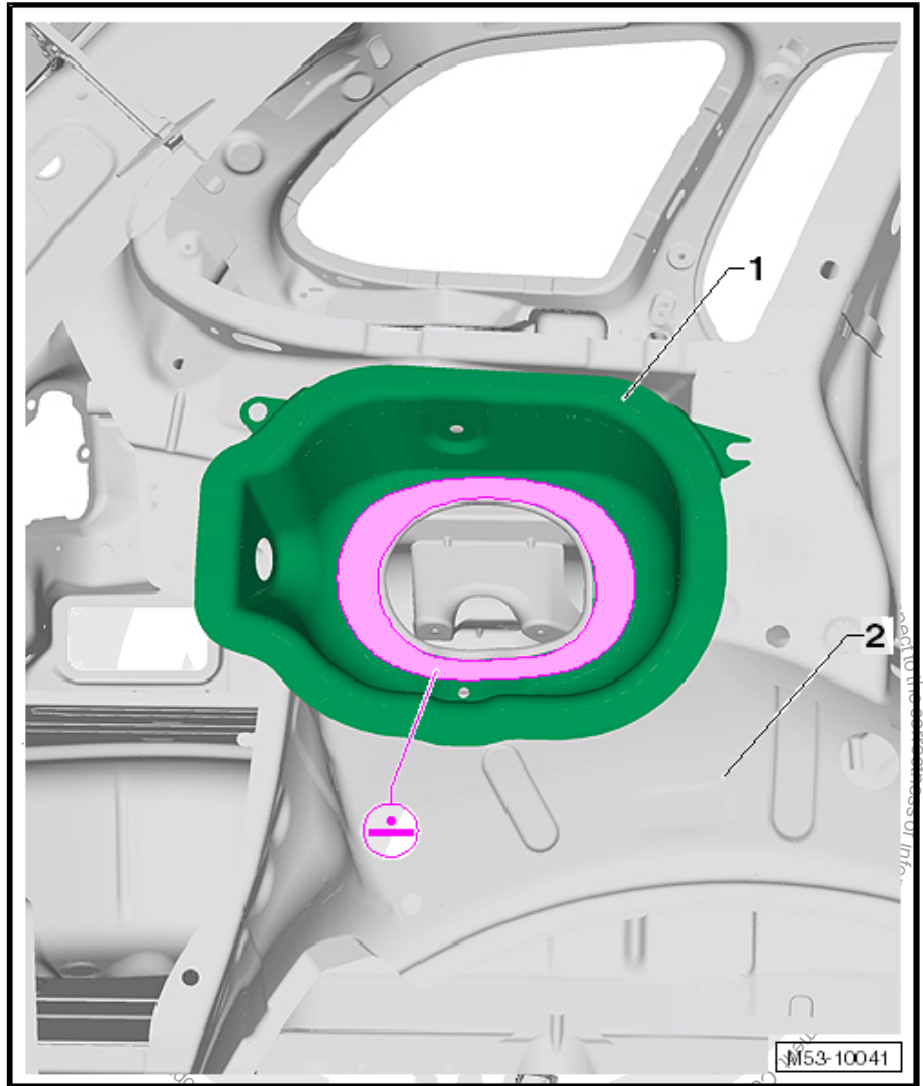


- Remove any remaining pieces on the wheel housing liner -1- and sand the adhesion area down to the bare metal.
- Make sure the insert cup for the fuel filler cap -1- fits correctly in the side panel.



**Note**

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*



- Apply the 2K Body Adhesive - D 180 003 M2- in the area on the fuel filler cap insert cup -1- where the bond was originally made at the factory and recreate the original bond to the outer wheel housing liner -2- using a straight-line spot weld seam.
- Install the side panel, refer to ["10.3 Installing", page 281](#) .





RO: 53 30 55 50

## 7 D-Pillar Reinforcement, Replacing Partial Section

⇒ ["7.1 Tools", page 261](#)

⇒ ["7.2 Removing", page 261](#)

⇒ ["7.3 Installing", page 263](#)

Includes: Sealing Channel



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Side panel already removed, refer to  
⇒ ["10 Side Panel, Replacing Partial Section", page 278](#)

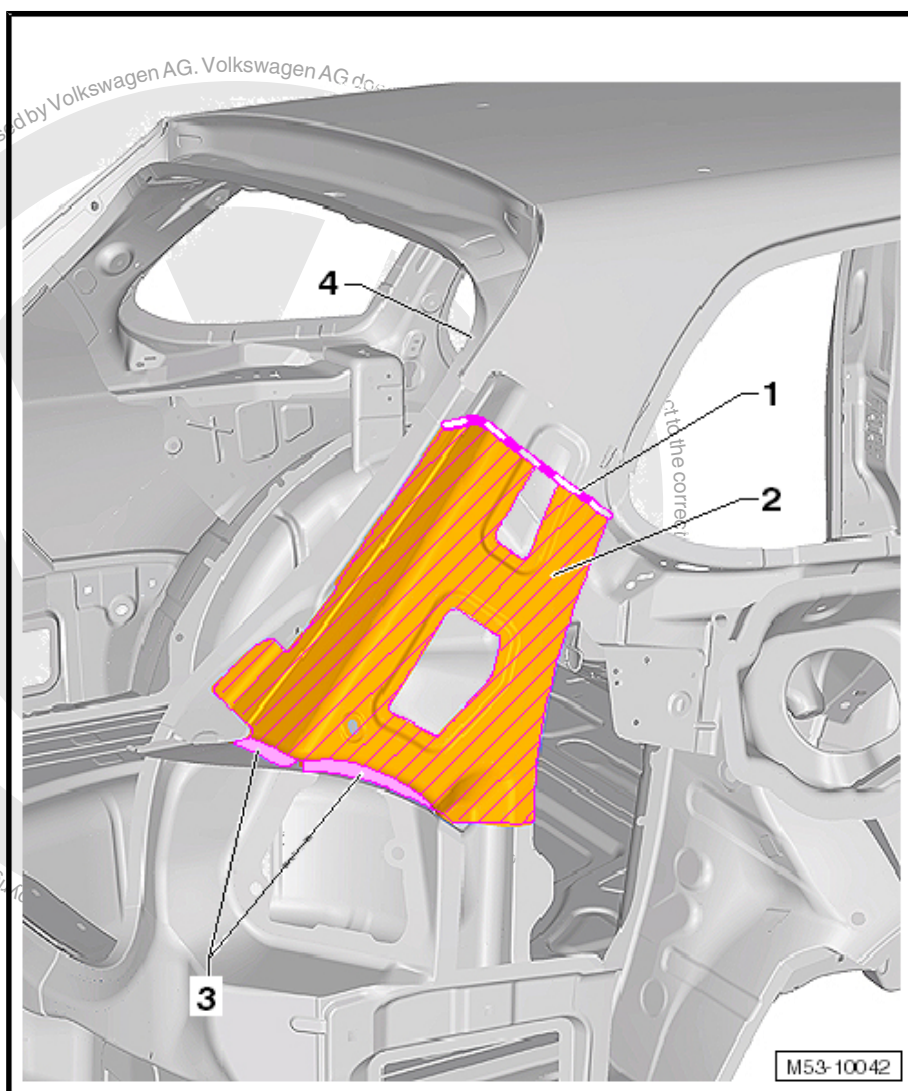
1 - Separating Cut

2 - D-Pillar Reinforcement

3 - Glued Area

4 - Sealing Channel

- ☐ Already separated for a better overview





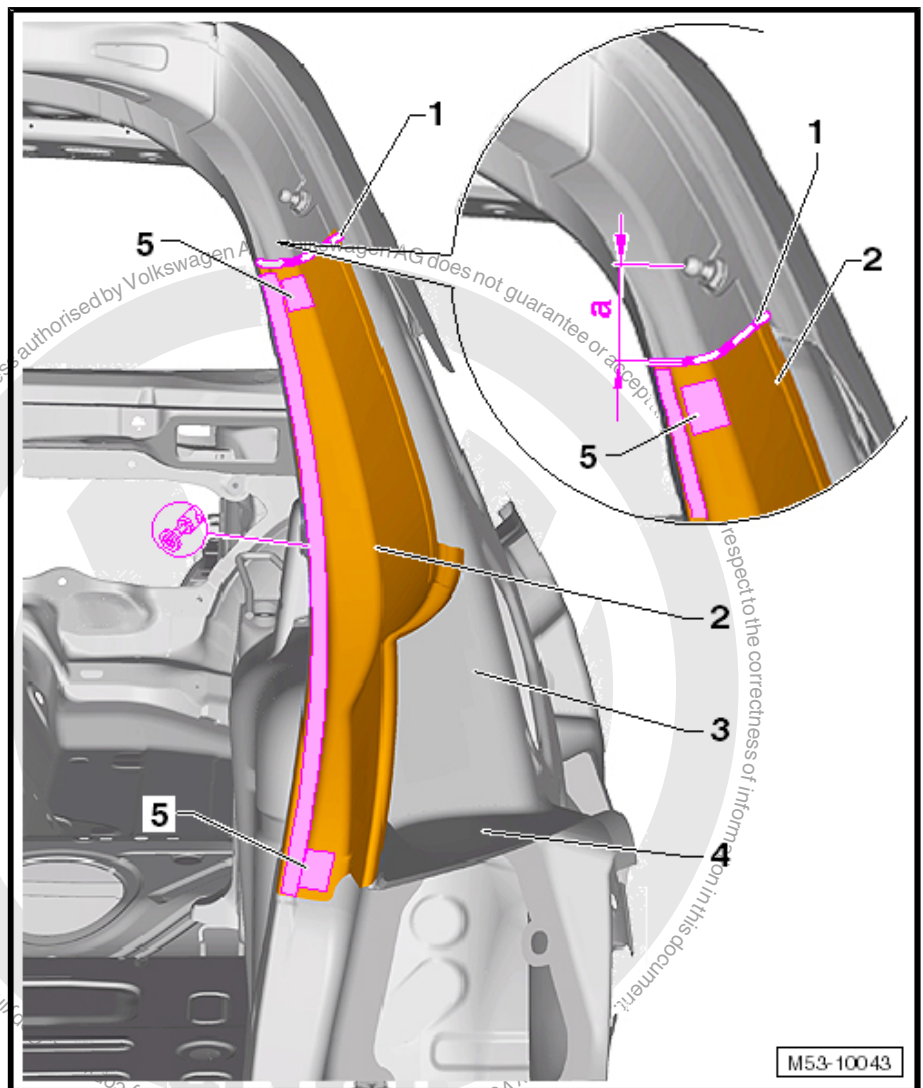
## 7.1 Tools



### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 7.2 Removing

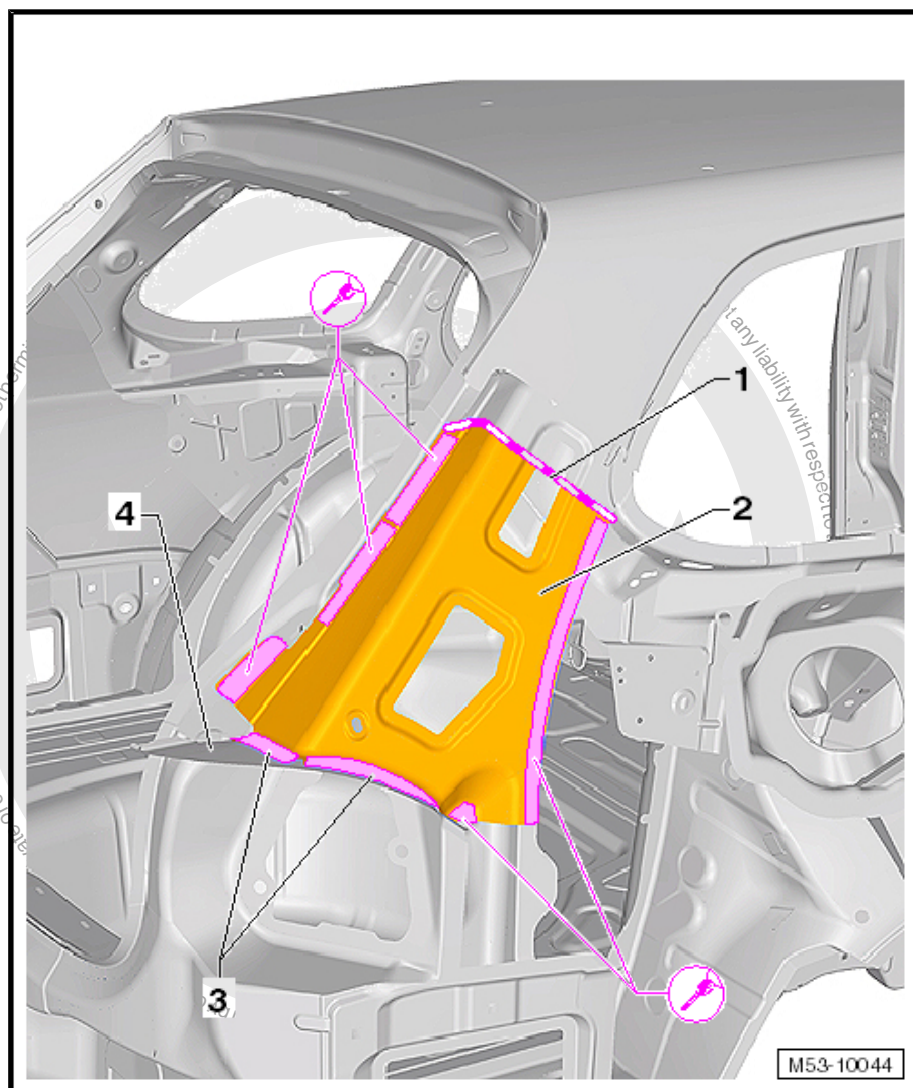


- Perform the separating cut -1- on the sealing channel -2- as shown.

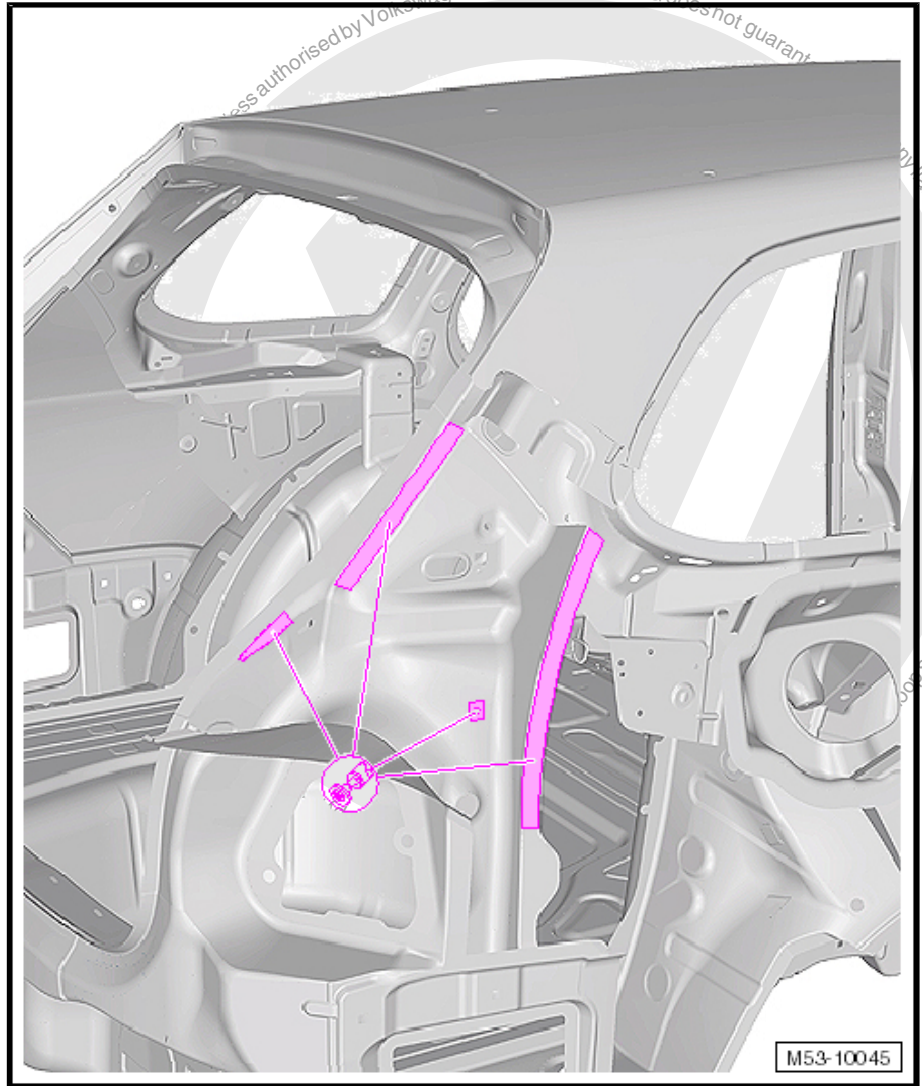
**Dimension -a- = 60 mm**

- Separate original joint.
- Loosen the bonded connections -5- to the D-pillar reinforcement -3- and the tail lamp mount -4-.





- Perform separating cut -1- as shown.
- Separate original joint.
- Loosen the bonded connection -3- between the D-pillar reinforcement -2- and the tail lamp mount -4-.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

### 7.3 Installing

⇒ [“7.3.1 Preparing New Parts”, page 264](#)

⇒ [“7.3.2 Welding”, page 264](#)



#### Note

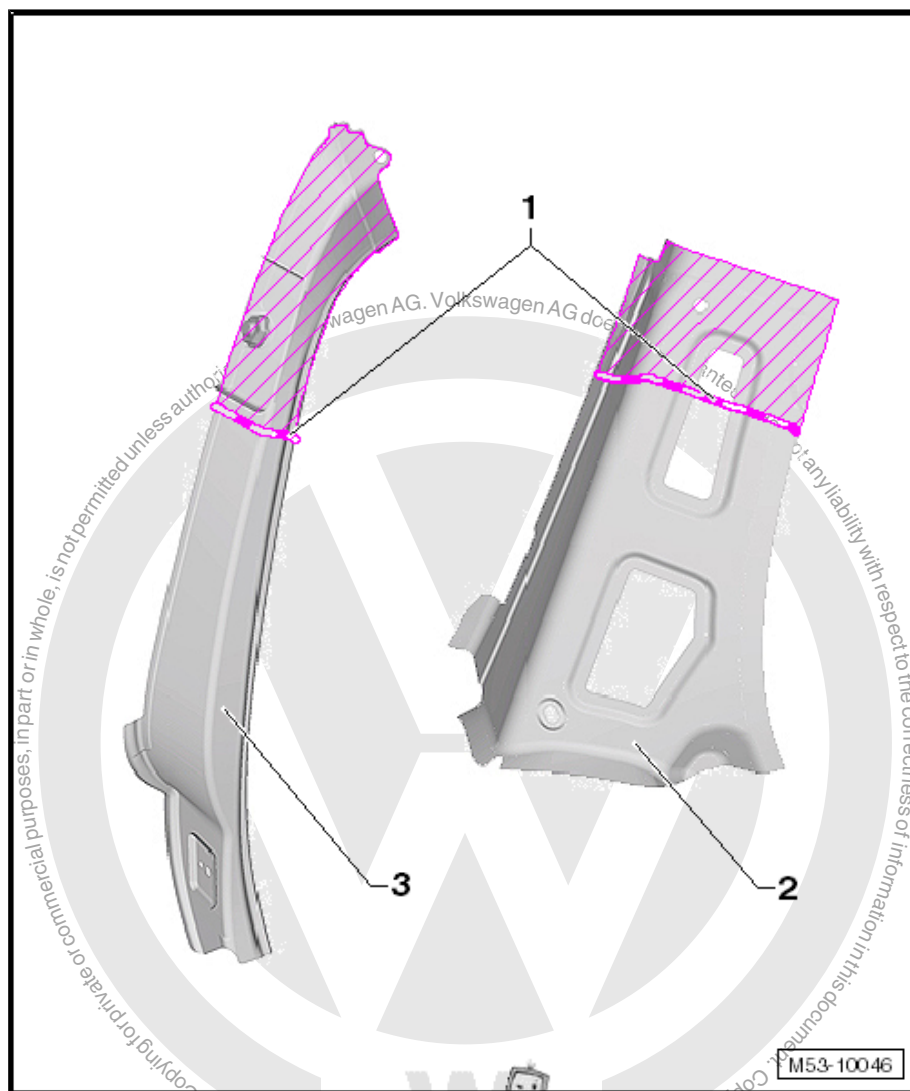
*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“7.1 Tools”, page 261](#).*



## 7.3.1 Preparing New Parts

### Replacement Part

- ◆ D-pillar reinforcement
- ◆ Sealing channel
- ◆ 2K Body Adhesive - D 180 003 M2-



- Apply the separating cut -1- to the sealing channel -3- and the D-pillar reinforcement -2- and cut the new part.

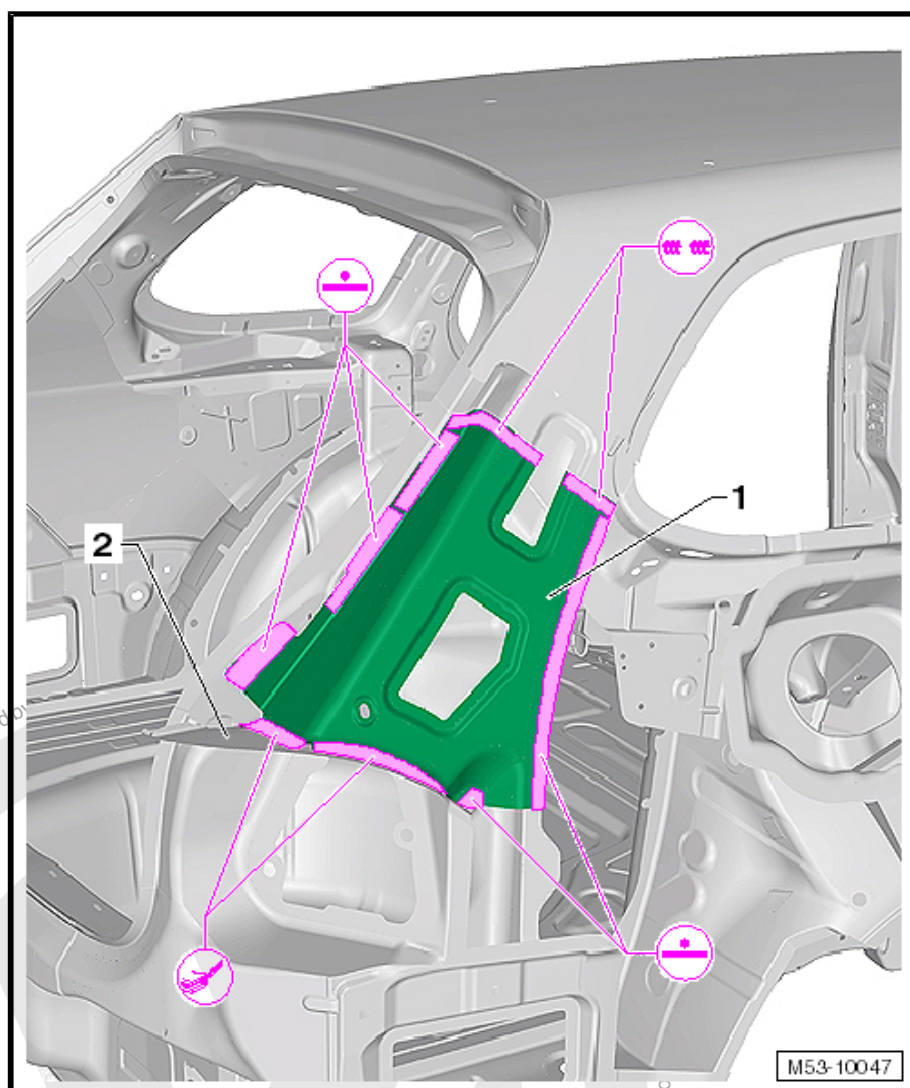
## 7.3.2 Welding



### Note

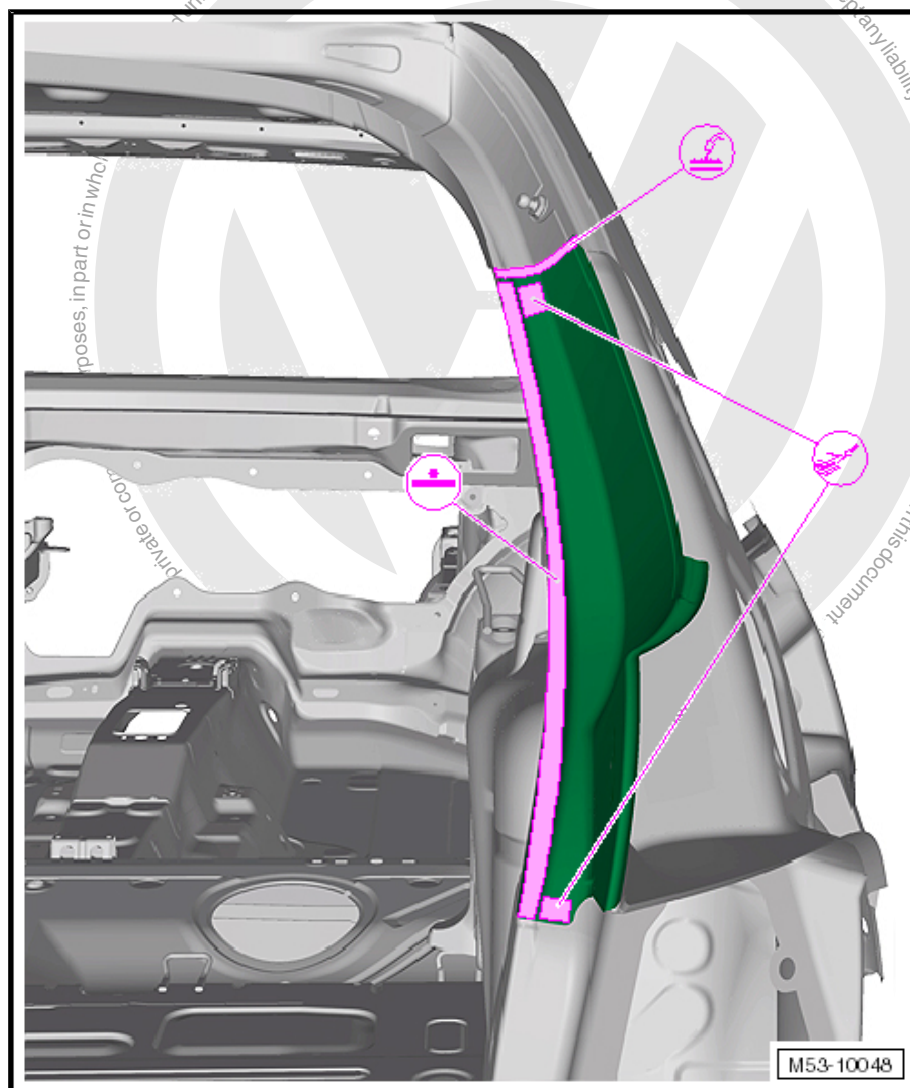
*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*

- Fit new part to vehicle standing on Straightening Bracket Set and secure.
- Check the fit with neighboring components.



- Apply the 2K Body Adhesive - D 180 003 M2- in the area where the bond was created at the factory between the D-pillar reinforcement 1- and the tail lamp mount -2-.
- Weld the separating cut using a gas-shielded arc continuous weld seam.
- Weld original joint, straight-line spot weld seam.
- Make sure the sealing channel fits correction with the other components.





- Apply 2K Body Adhesive - D 180 003 M2- in the area where adhesive on the sealing channel was applied during production.
- Weld the separation cut, either with MIG soldered seams or a gas-shielded arc continuous weld seam
- Weld original joint, straight-line spot weld seam.
- Install the side panel, refer to ⇒ [“10.3 Installing”, page 281](#) .



RO: 53 30 55 60

## 8 Inner D-Pillar, Replacing

⇒ ["8.1 Tools", page 268](#)

⇒ ["8.2 Removing", page 269](#)

⇒ ["8.3 Installing", page 270](#)

Includes: End Plate

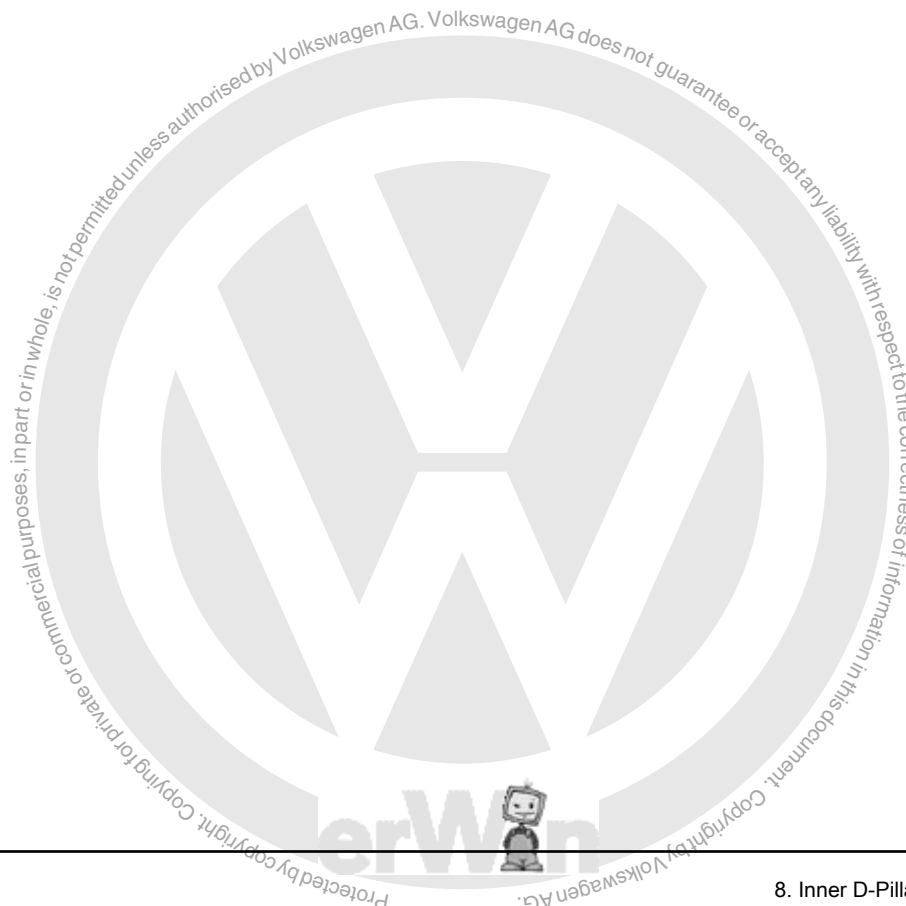


### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Side panel already removed, refer to  
⇒ ["10 Side Panel, Replacing Partial Section", page 278](#)
- Tail lamp mount already removed, refer to  
⇒ ["3 Tail Lamp Mount, Replacing", page 233](#) .
- D-pillar reinforcement already removed, refer to  
⇒ ["7 D-Pillar Reinforcement, Replacing Partial Section", page 260](#)
- Tail lamp connecting plate already removed, refer to  
⇒ ["4 Tail Lamp Connecting Plate, Removing and Installing", page 238](#)



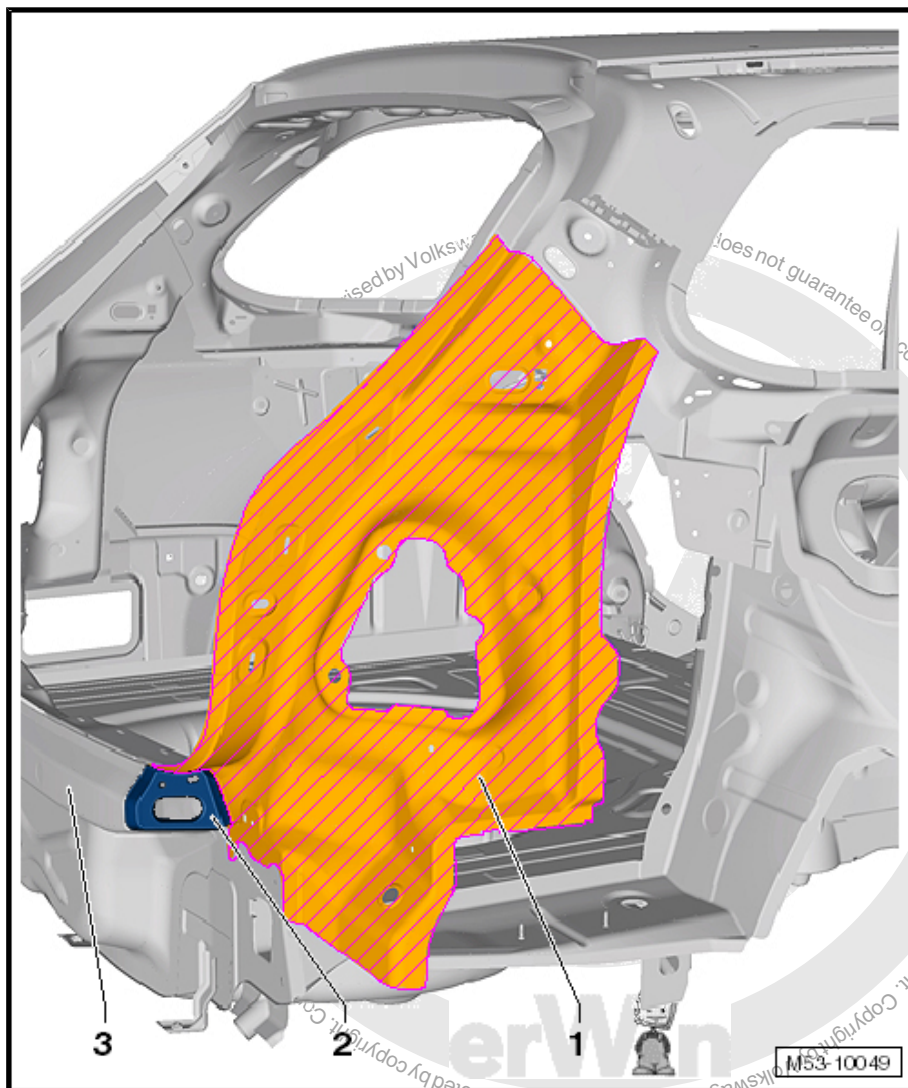


**1 - Inner D-Pillar**

**2 - Separating Piece**

- ❑ Must be removed together with the D-pillar

**3 - Rear Cross Panel**



## 8.1 Tools



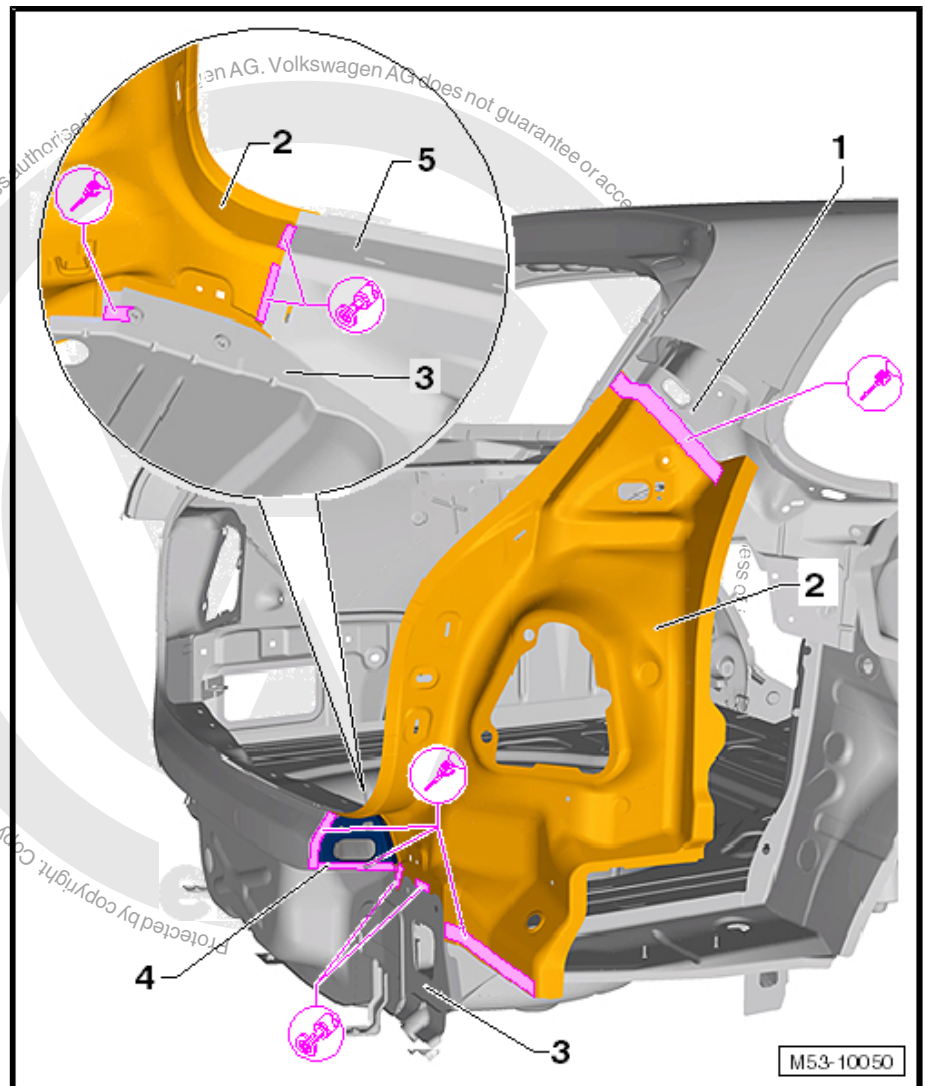
**Note**

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

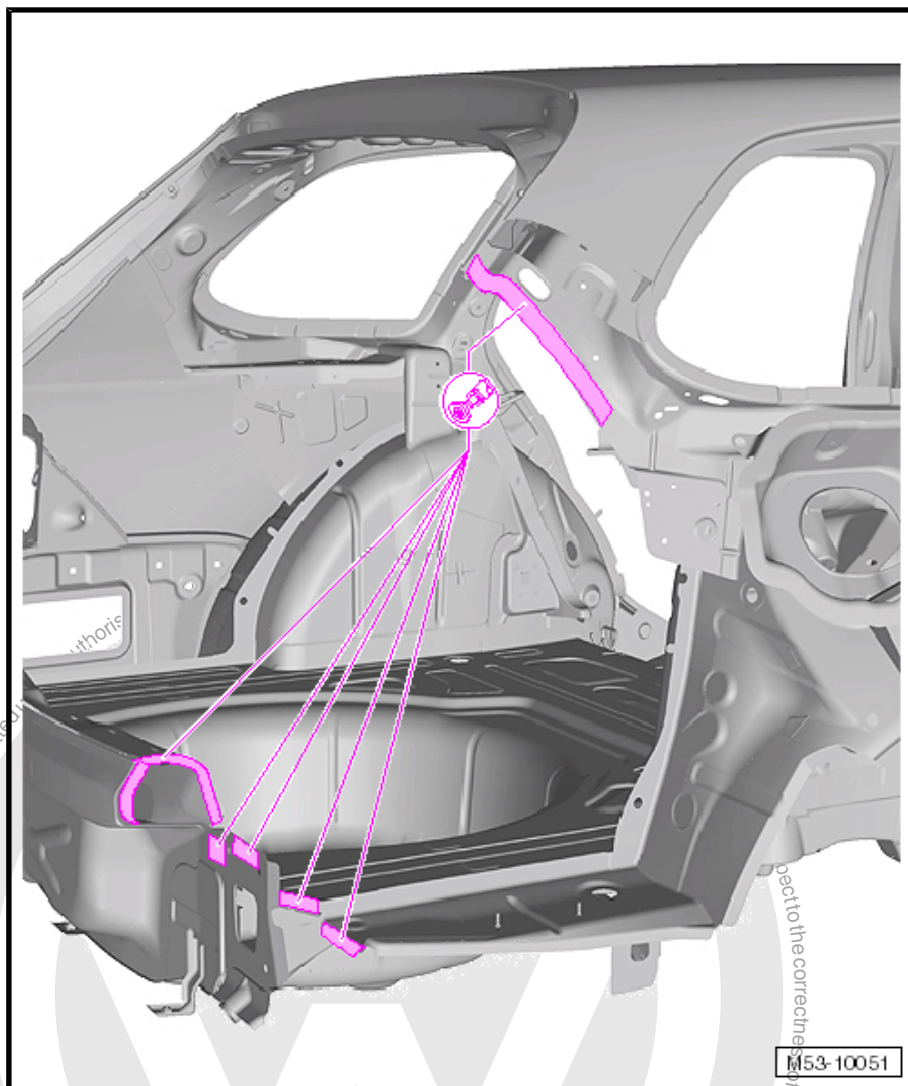




## 8.2 Removing



- Loosen the original joint to the inner side panel -1- and to the rear cross panel -3-.
- Remove the original joint between the end plate -4- and the rear cross panel -3-.
- Loosen the original joint between the inner D-pillar -2- and the lock carrier -5-.
- Loosen the original joint to the rear cross panel -3-.



- Remove remaining pieces.

## 8.3 Installing

⇒ [“8.3.1 Preparing New Parts”, page 270](#)

⇒ [“8.3.2 Welding”, page 271](#)



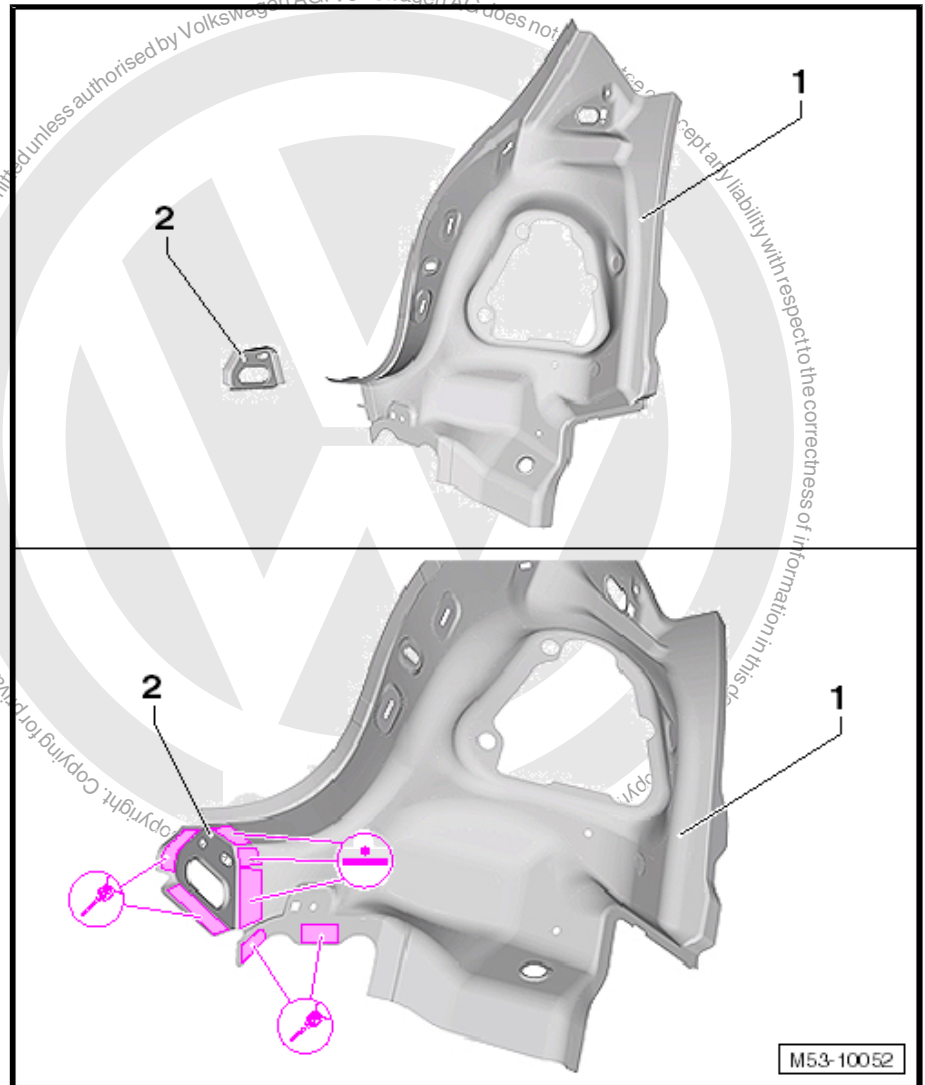
### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“8.1 Tools”, page 268](#).*

## 8.3.1 Preparing New Parts

### Replacement Part

- ◆ Inner D-pillar -1-
- ◆ End plate -2-



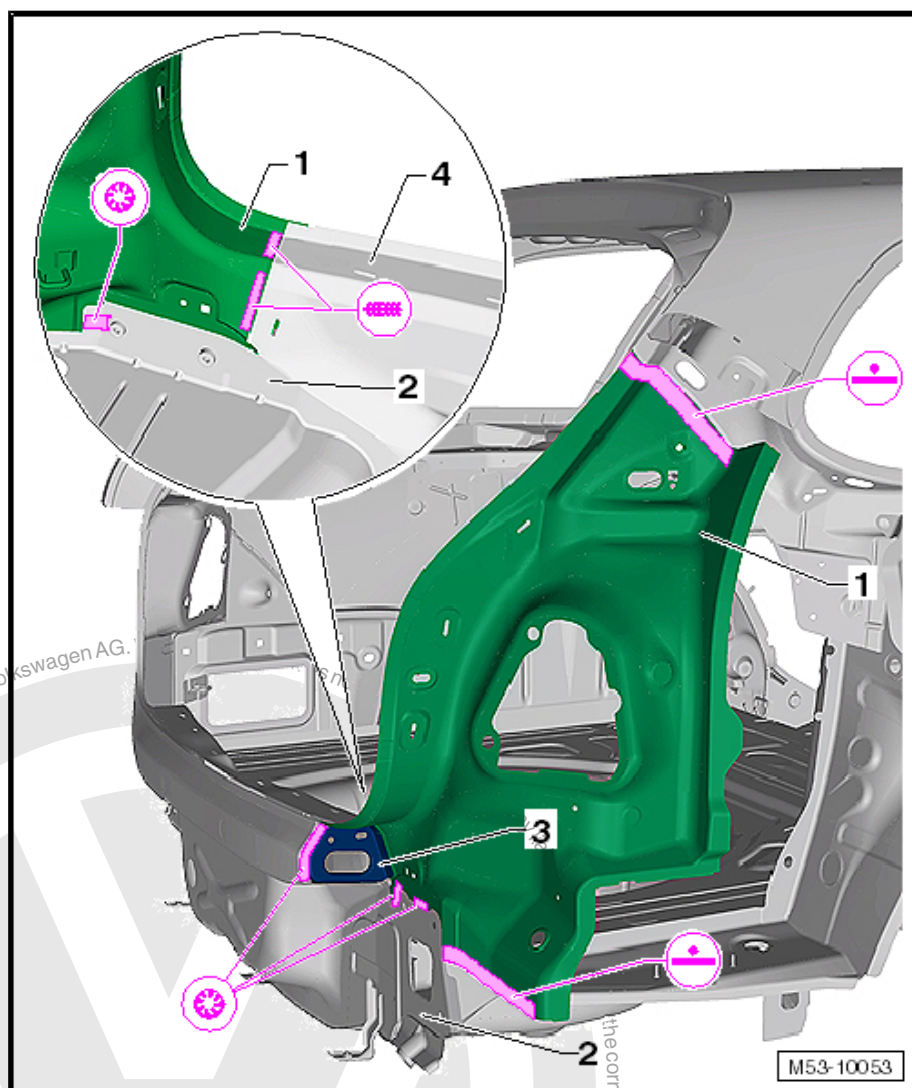
- Fit the end plate -2- to the inner D-pillar -1- and weld it using a straight line spot weld seam.
- Drill 7 mm holes for gas-shielded arc plug weld seam.

### 8.3.2 Welding

- Install new part with vehicle standing on the alignment bracket set and affix it in place.



- Check the fit with neighboring components.



- Weld original joint, straight-line spot weld seam.
- Weld the inner D-pillar -1- with the cross panel -2- and the end plate -3- using a gas-shielded arc plug weld seam.
- Grind down the gas shielded arc continuous weld seam.
- Weld the lock carrier -4- with the inner D-pillar -1- using a gas shielded arc continuous weld seam.
- Weld the rear cross panel -2- with the inner D-pillar -1- using a gas-shielded arc plug weld seam.
- Install the D-pillar reinforcement, refer to [⇒ "7.3 Installing", page 263](#).
- Install the tail lamp mount, refer to [⇒ "3.3 Installing", page 235](#).
- Install the tail lamp connecting plate, refer to [⇒ "4.3 Installing", page 240](#).
- Install the side panel, refer to [⇒ "10.3 Installing", page 281](#).





RO: 53 48 55 50

## 9 Rear Longitudinal Member, Replacing Partial Section

⇒ ["9.1 Tools", page 274](#)

⇒ ["9.2 Removing", page 274](#)

⇒ ["9.3 Installing", page 275](#)



### WARNING

*Follow all safety precautions.*

⇒ General Information; Body Repairs, Body Collision Repair

Cross panel already removed, refer to

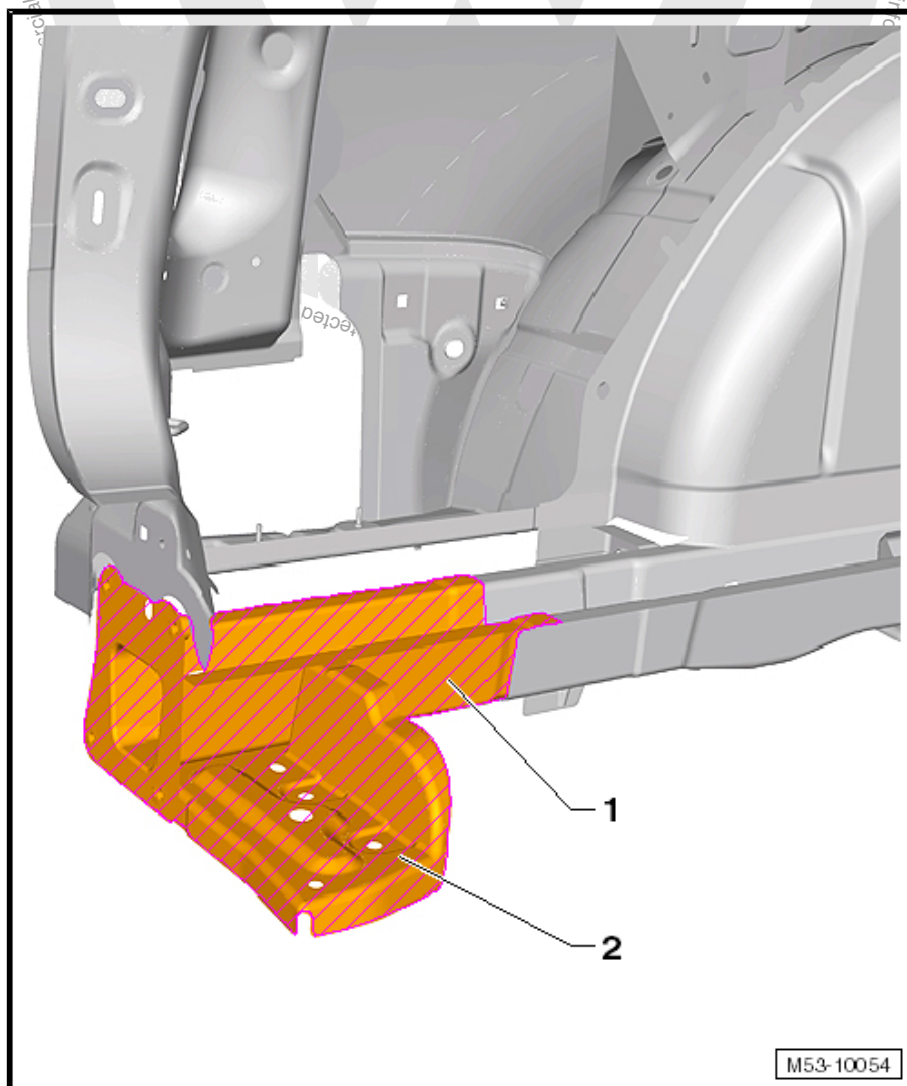
⇒ ["1 Cross Panel, Replacing", page 218](#)

Luggage compartment floor already removed, refer to

⇒ ["5 Luggage Compartment Floor, Removing and Installing", page 245](#)

1 - Rear Longitudinal Member  
-Partial Section-

2 - Exhaust Pipe Bracket





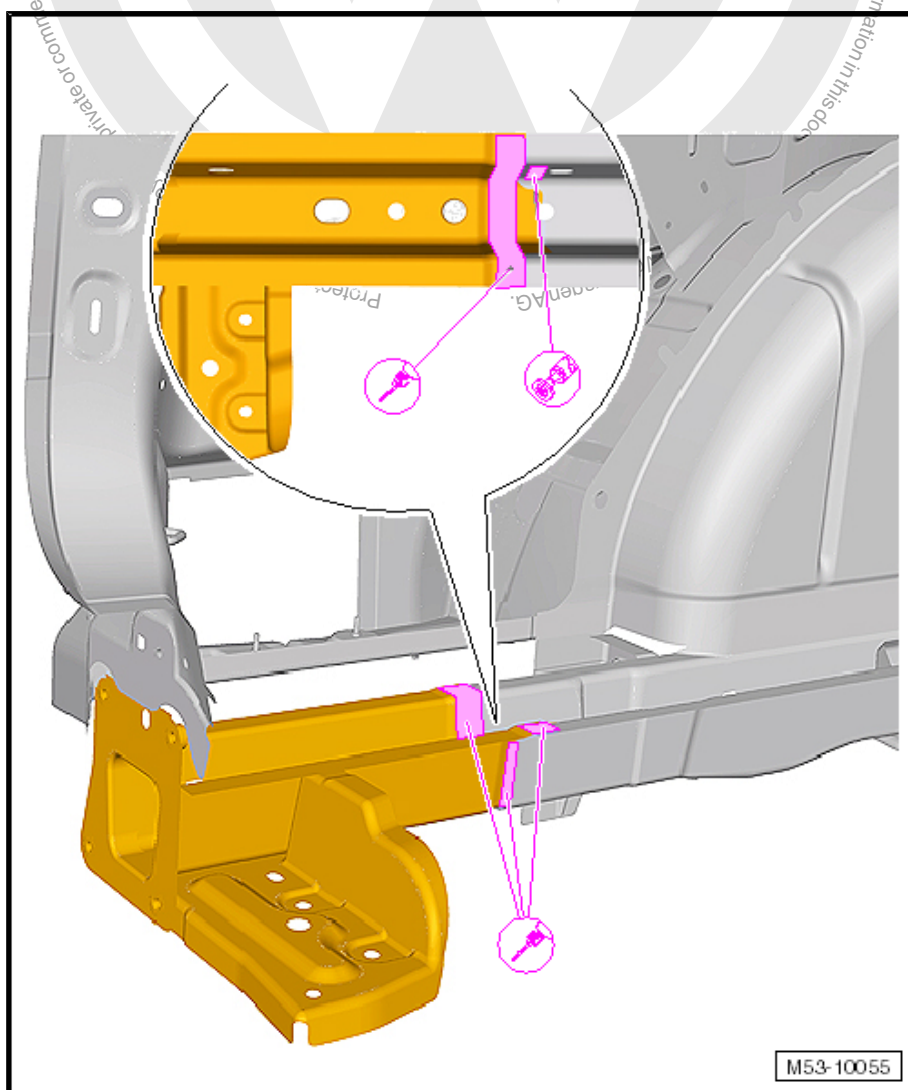
## 9.1 Tools



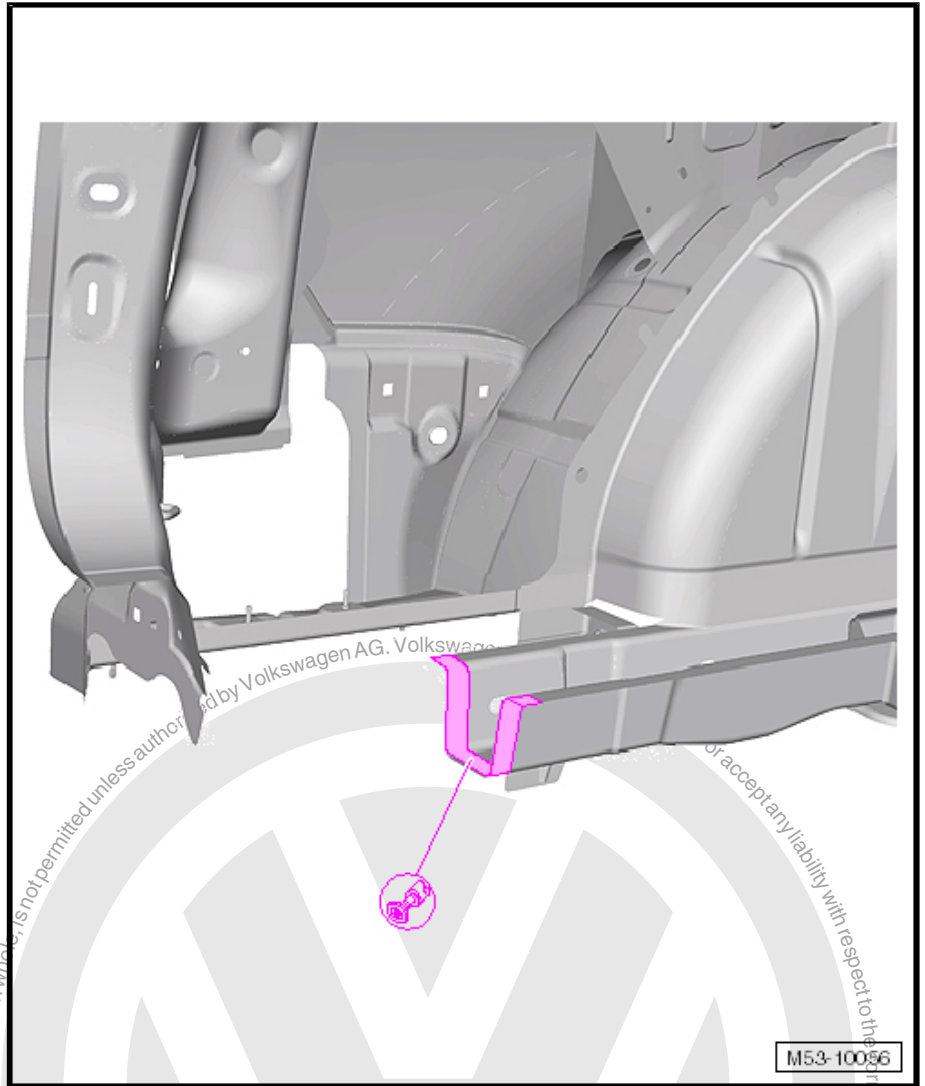
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 9.2 Removing



- Separate original joint on the outside of longitudinal member.
- Separate gas-shielded arc continuous weld seam on the inside of longitudinal member.



- Remove remaining pieces.

## 9.3 Installing

⇒ [“9.3.1 Preparing New Parts”, page 275](#)

⇒ [“9.3.2 Welding”, page 276](#)



### Note

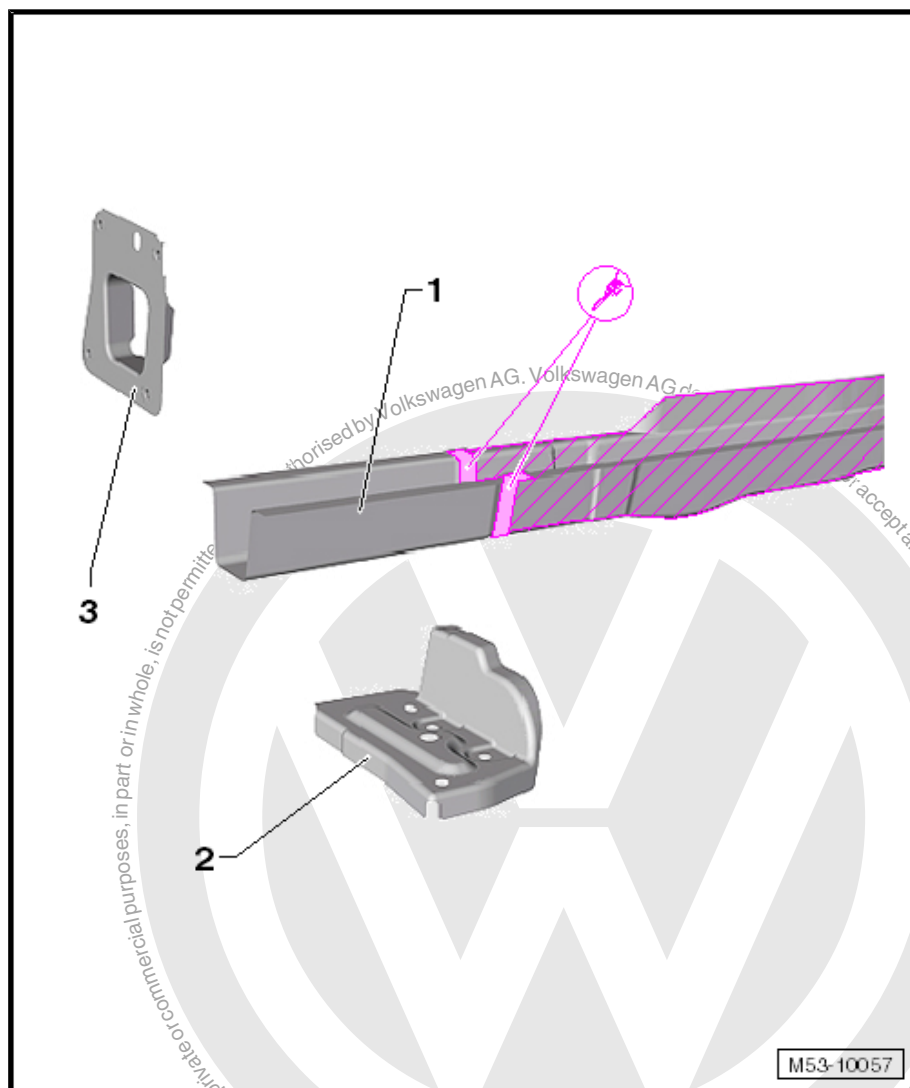
*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“9.1 Tools”, page 274](#).*

## 9.3.1 Preparing New Parts

### Replacement Part

- ◆ Rear longitudinal member
- ◆ Exhaust pipe bracket
- ◆ Longitudinal member rear cross panel





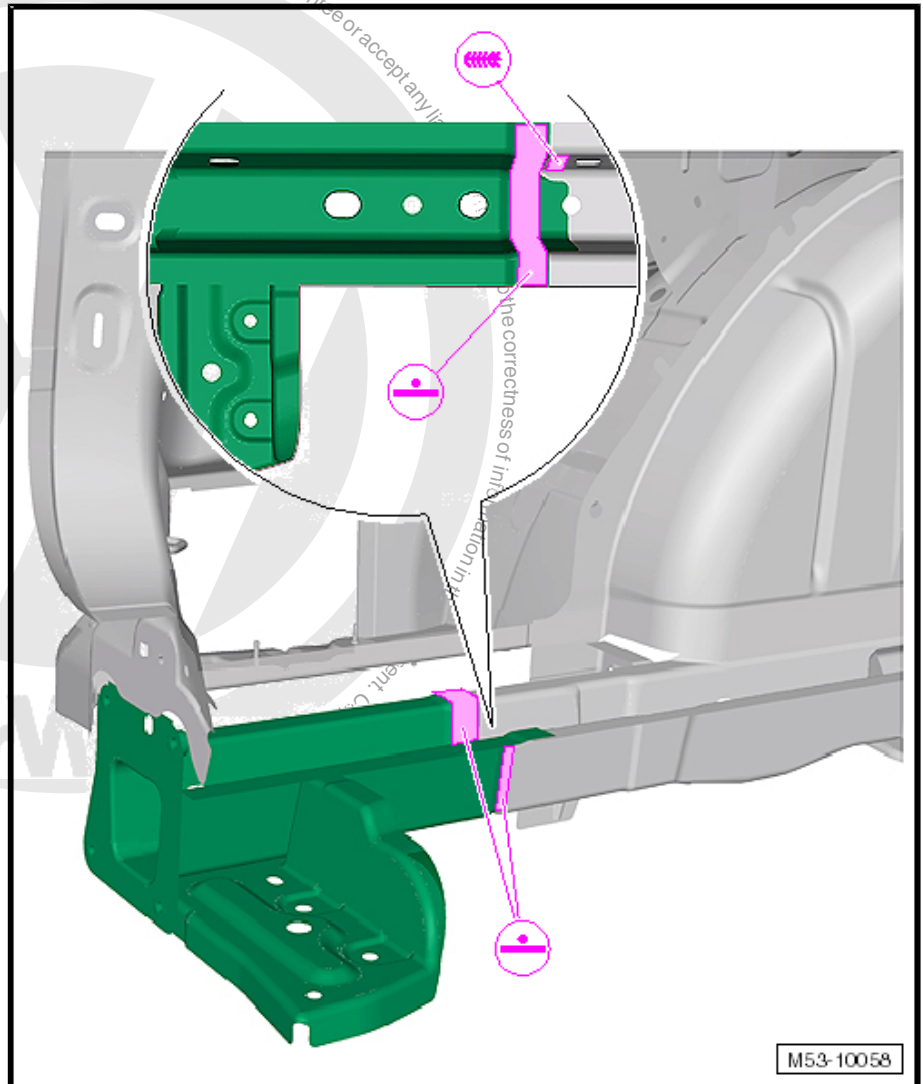
- Separate longitudinal member end section -1- from the longitudinal member.
- Weld the longitudinal member back plate -3- and the exhaust pipe bracket -2- to the longitudinal member end piece -1- with a straight-line spot weld seam.

### 9.3.2 Welding

- Fit new part to vehicle standing on Alignment Bracket Set and secure.



- Check fit with neighboring components.



- Weld in new part, gas-shielded arc plug weld seam and gas-shielded arc continuous weld seam.

Install the luggage compartment floor, refer to  
⇒ [“5.3 Installing”, page 248](#) .

Install the cross panel, refer to ⇒ [“1.3 Installing”, page 222](#) .



RO: 53 55 55 00

## 10 Side Panel, Replacing Partial Section

⇒ "10.1 Tools", page 279

⇒ "10.2 Removing", page 279

⇒ "10.3 Installing", page 281



### WARNING

*Follow all safety precautions.*

*If welding or cutting with spark-producing devices/tools or when plating in foamed areas where hazardous gases are produced that are harmful to humans and the environment, these procedures are to be omitted in each case.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

### 1 - Molded Foam Part

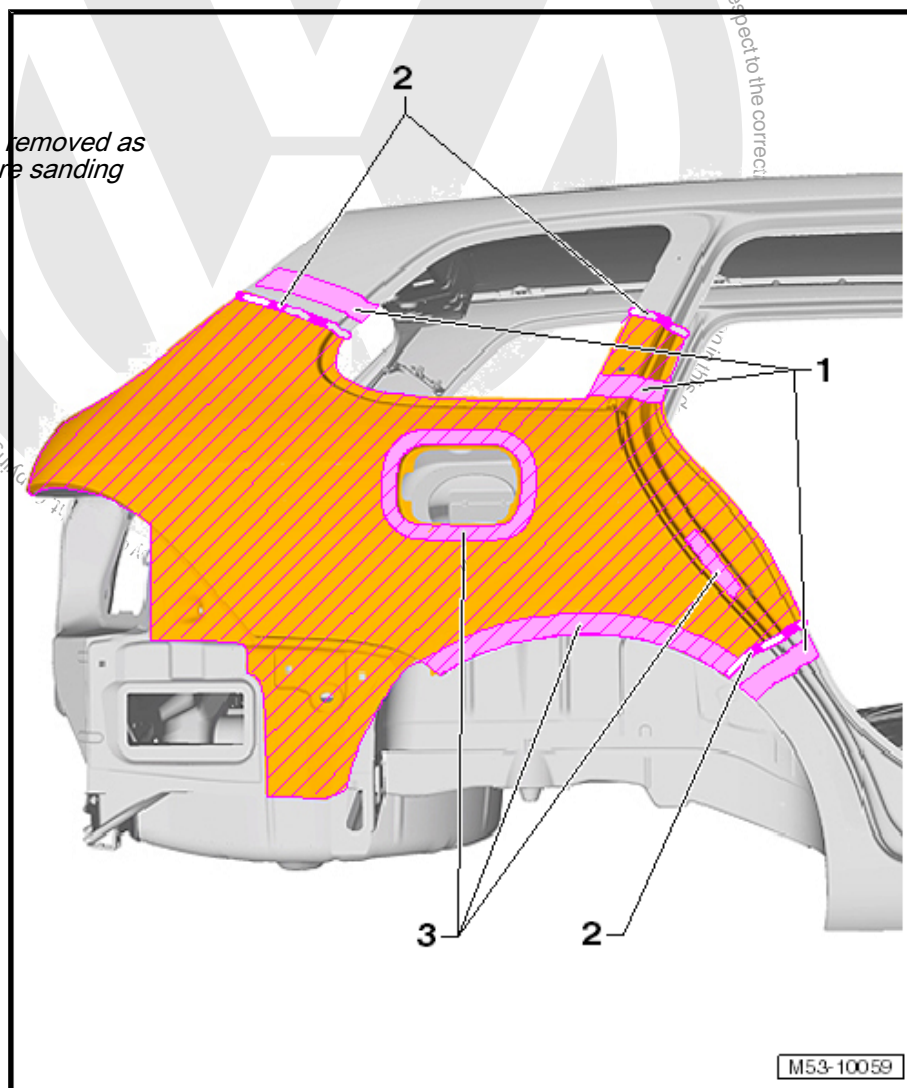


#### Note

*Foam residue must be removed as much as possible before sanding work.*

### 2 - Separating Cut

### 3 - Glued Area





## 10.1 Tools

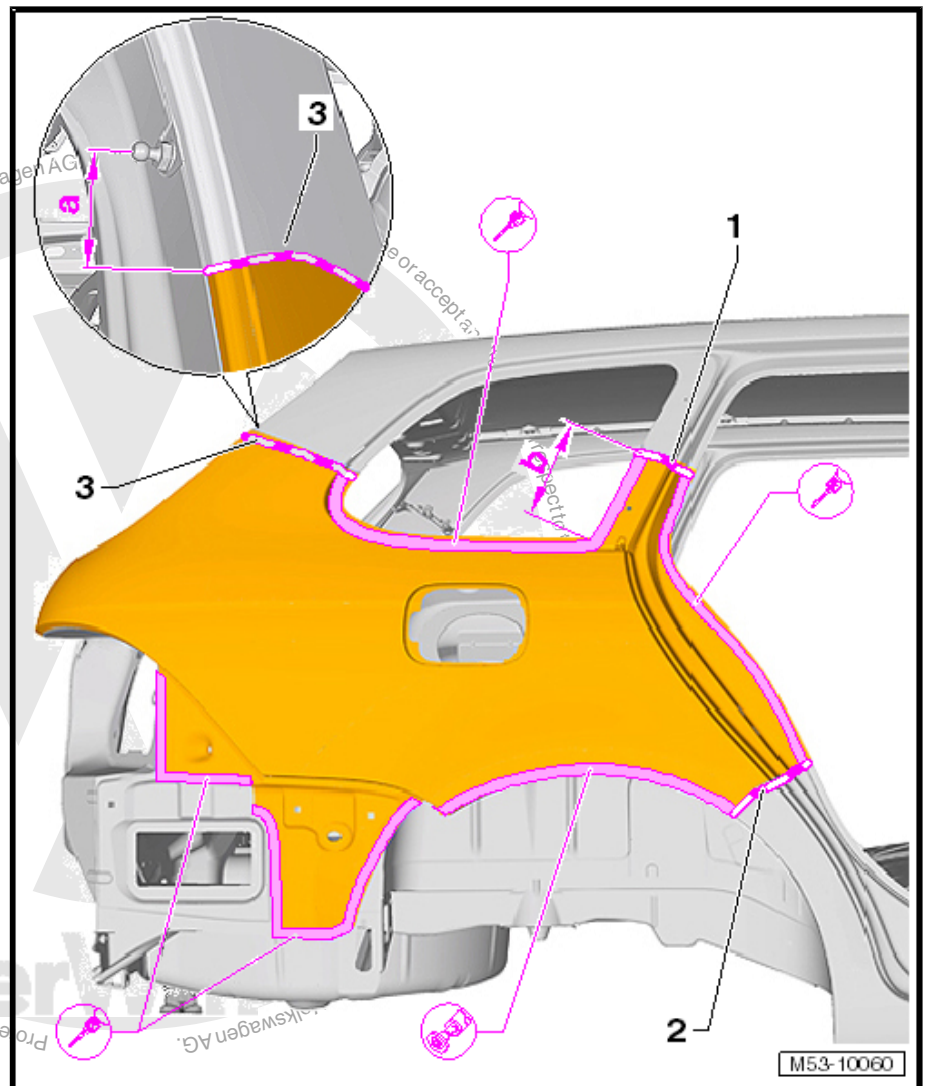
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.

## 10.2 Removing

### Note

- ◆ Perform separating cut -1- only on outer plate, do not damage internal reinforcements.
- ◆ Possible separation cuts depending on the scope of the damage, refer to ➔ [page 283](#)



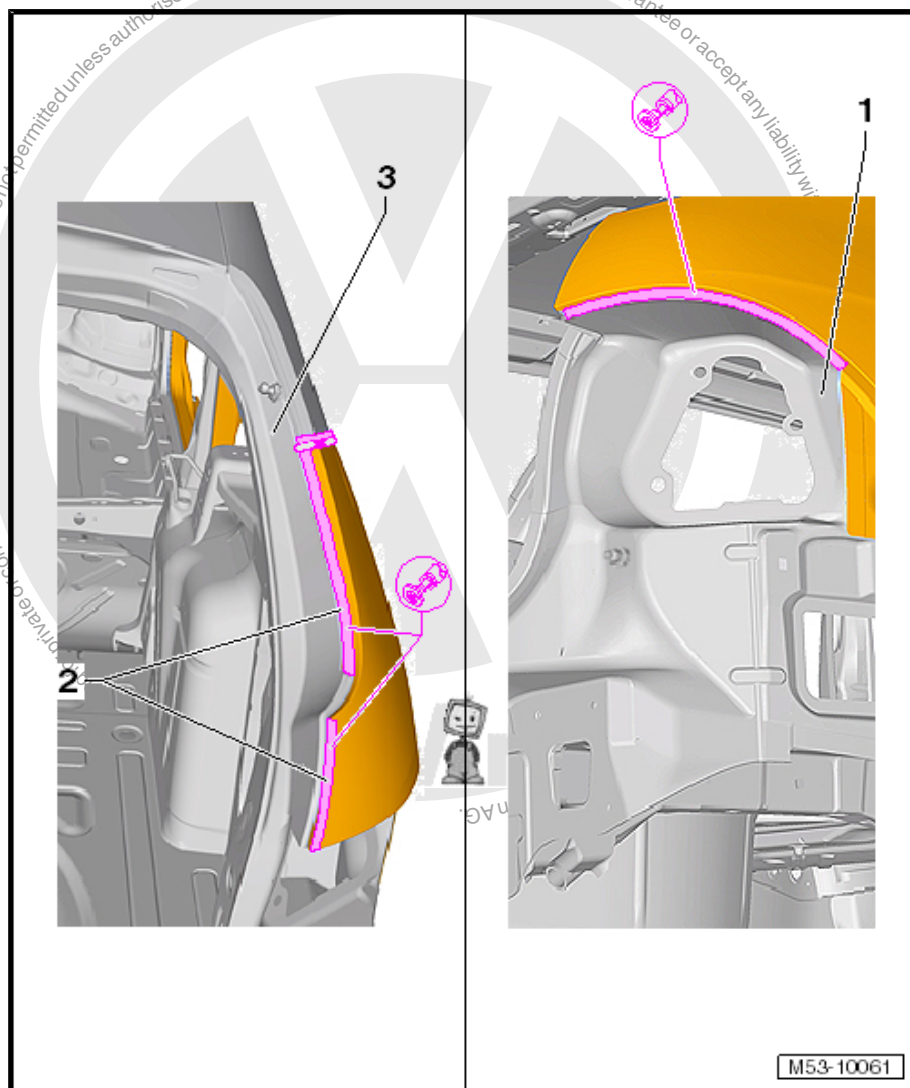
- Perform the separating cut -1 and 3- as pictured.



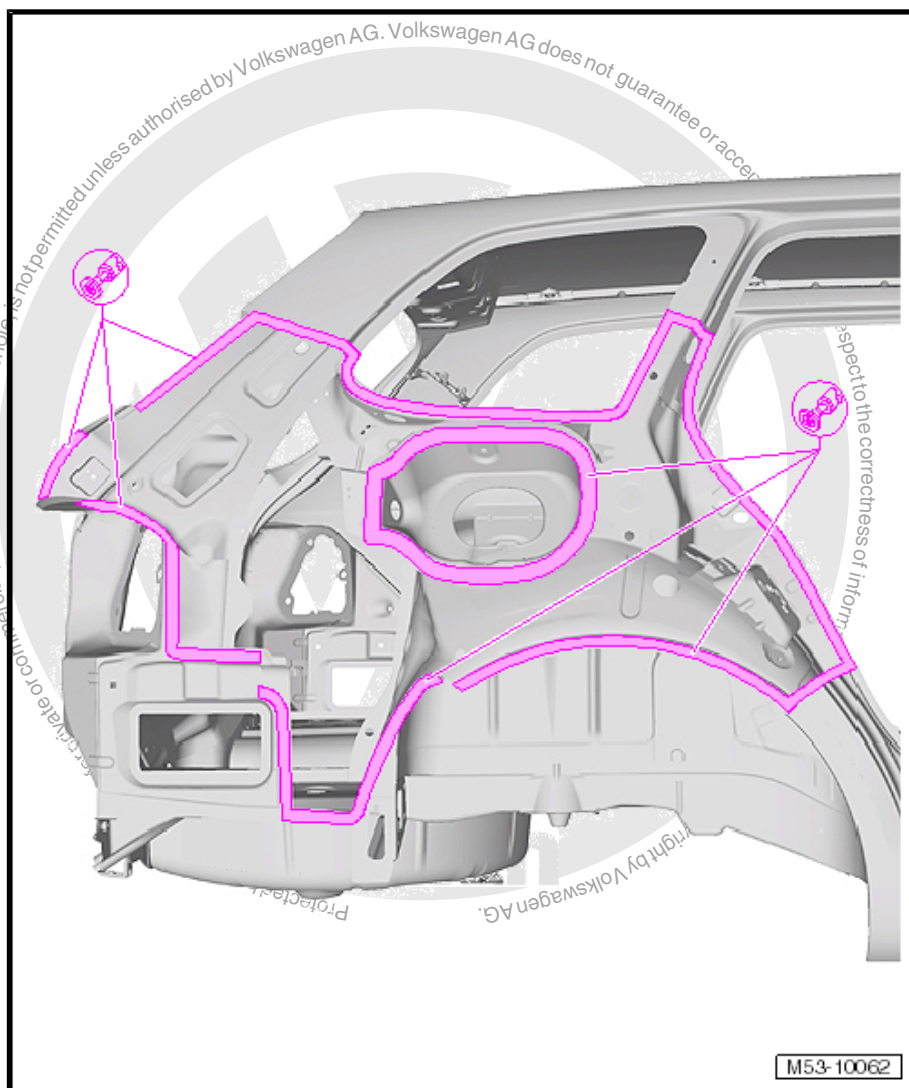
**Dimension -a- = 50 mm**

**Dimension -b- = 200 mm**

- Make the separating cut -2- as shown.
- Grind outer edge on wheel housing.
- Separate original joint.



- Grind through the laser brazed seam -2- to the sealing channel -3-. Do not damage the sealing channel lying beneath it.
- Loosen the original connection to the rear cross panel tail lamp -1-.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.
- Clean the flanging area on wheel arch (it must be free of dust and grease).

### 10.3 Installing

⇒ ["10.3.1 Preparing New Parts", page 282](#)

⇒ ["10.3.2 Molded Foam Parts", page 283](#)

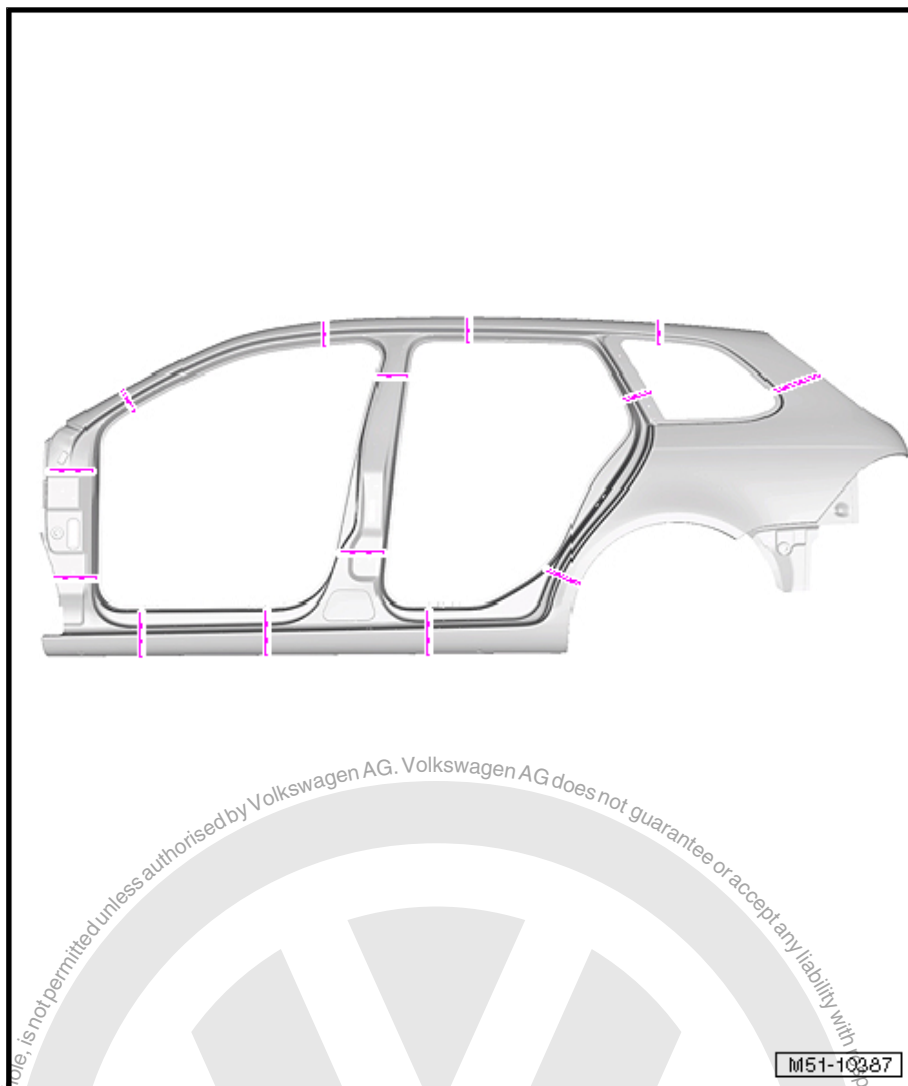
⇒ ["10.3.3 Welding", page 283](#)



#### Note

*Use only welding equipment approved by Volkswagen AG, refer to ⇒ ["10.1 Tools", page 279](#).*





#### Note

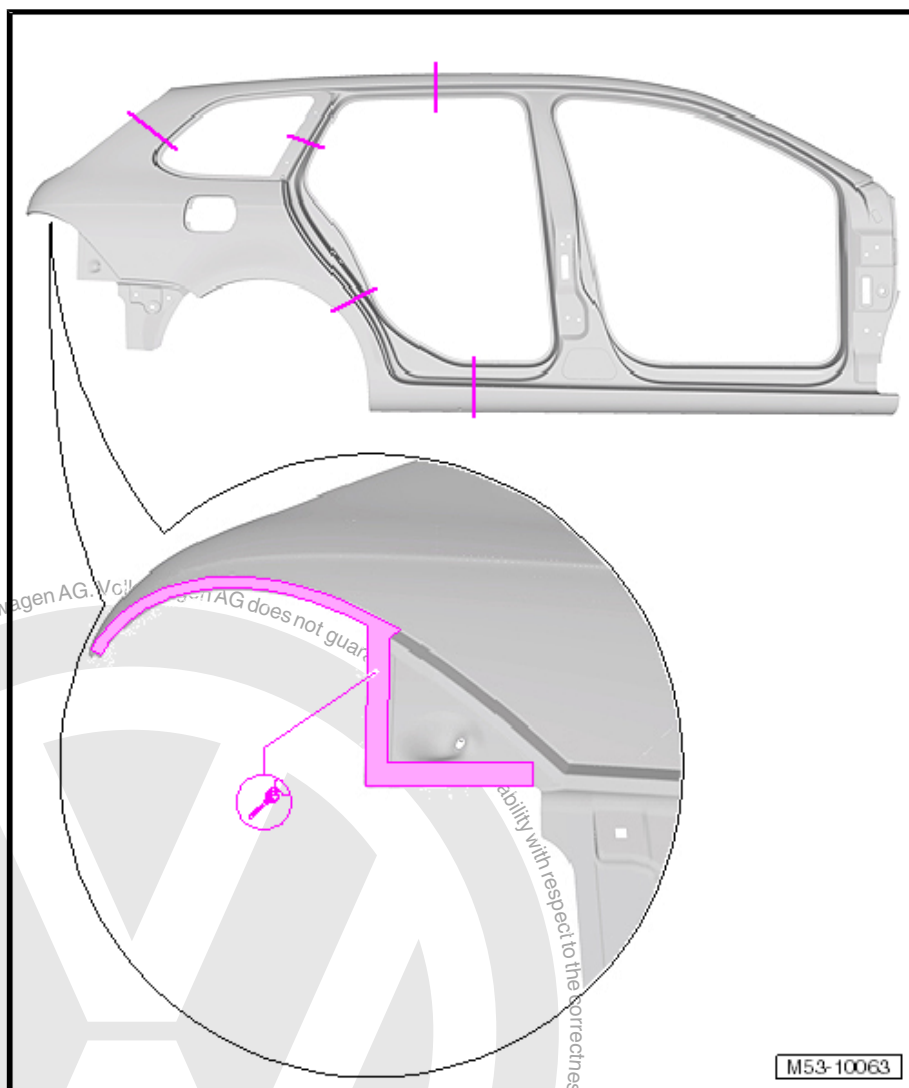
*MIG soldered seams/gas-shielded arc continuous weld seam are permitted on the separating cuts shown in the illustration.*

### 10.3.1 Preparing New Parts

#### Replacement Part

- ◆ Side panel sub-part
- ◆ Molded foam part (depending on location of cut)
- ◆ 2K Body Adhesive - D 180 003 M2-
- ◆ Butyl Adhesive Sealing Cord - AKD 497 010 04 R10- or
- ◆ 2K Polyurethane Adhesive - D 180 KD2 A1- (for the area near the fuel filler tube on the right side section)





- Depending on the scope of the damage, transfer the separation cuts onto the new part and cut.
- Drill 7 mm holes for the gas shielded arc plug weld seam on the side panel, as shown in the -magnified area-.

### 10.3.2 Molded Foam Parts

Observe repair notes.

Molded foam part, refer to ⇒ General Information; Body Repairs, Body Collision Repair

### 10.3.3 Welding



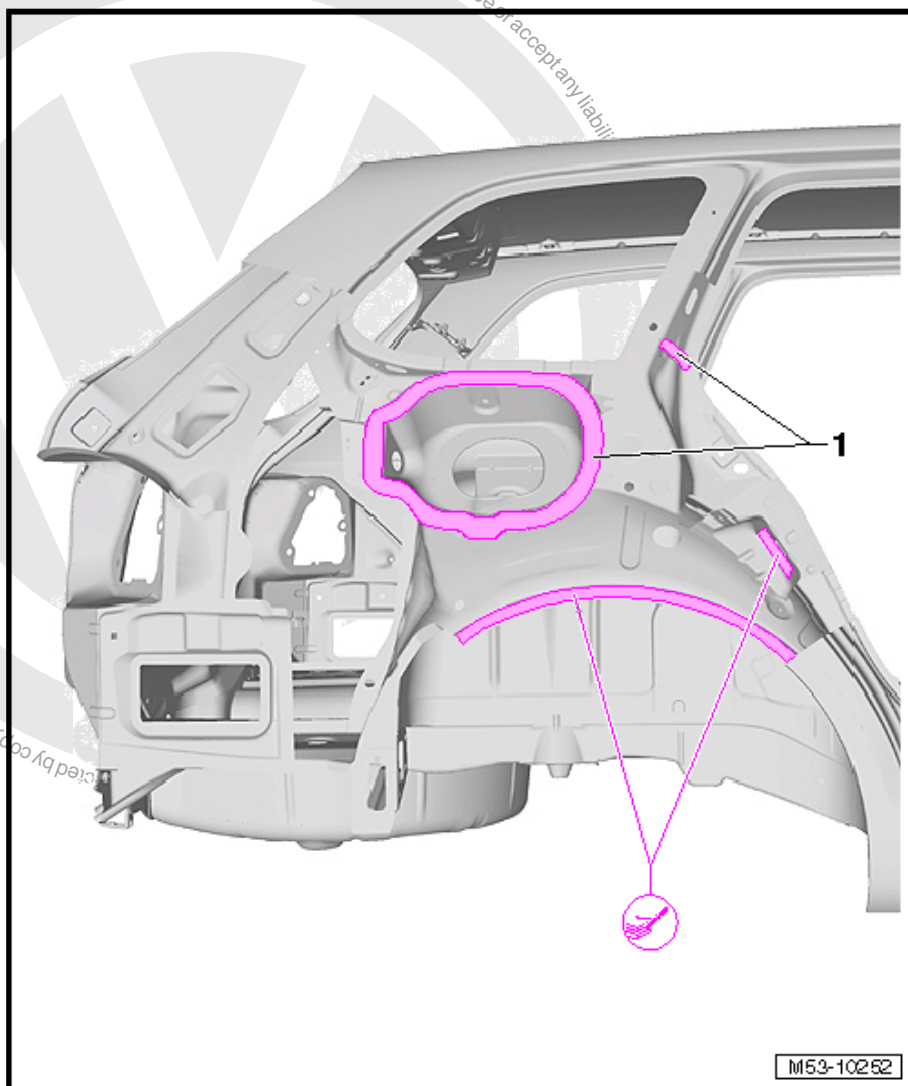
Note

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*

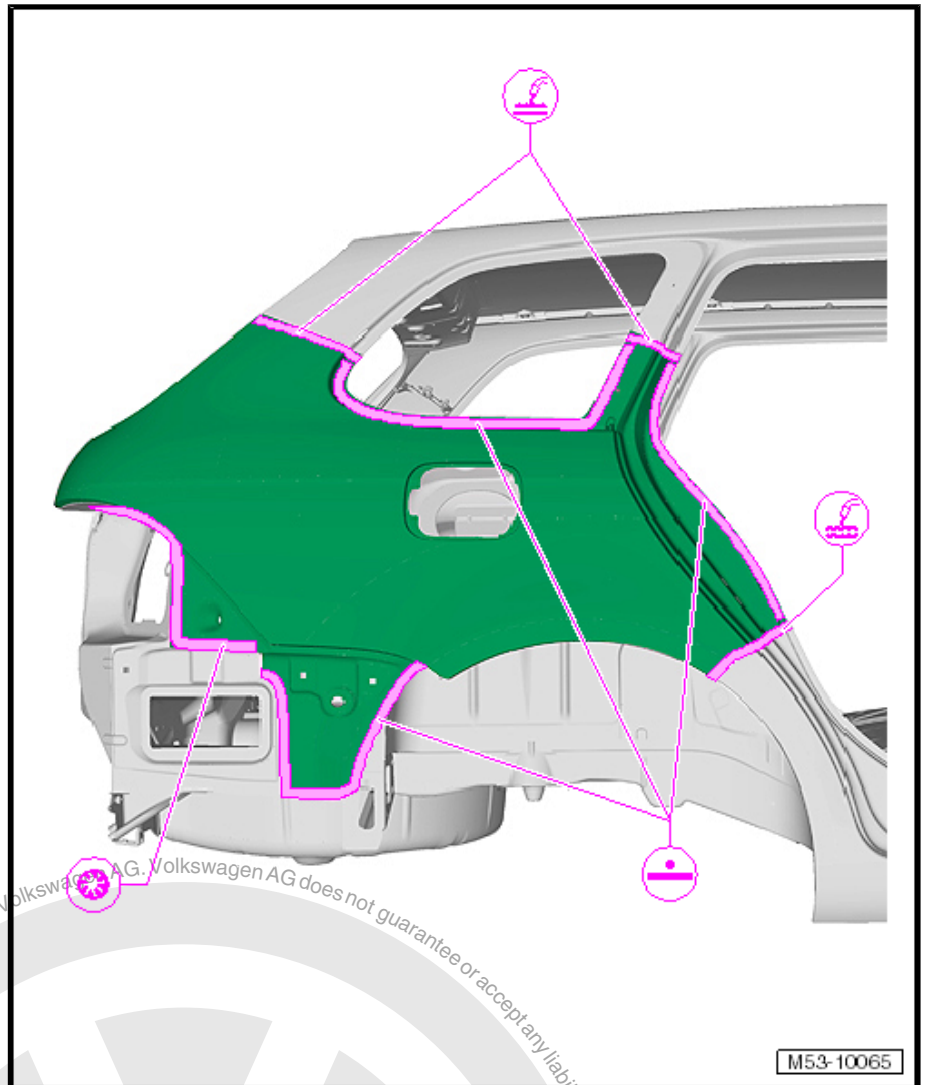
- Fit the new part and secure it while the vehicle is resting on the wheels or the alignment bracket set.



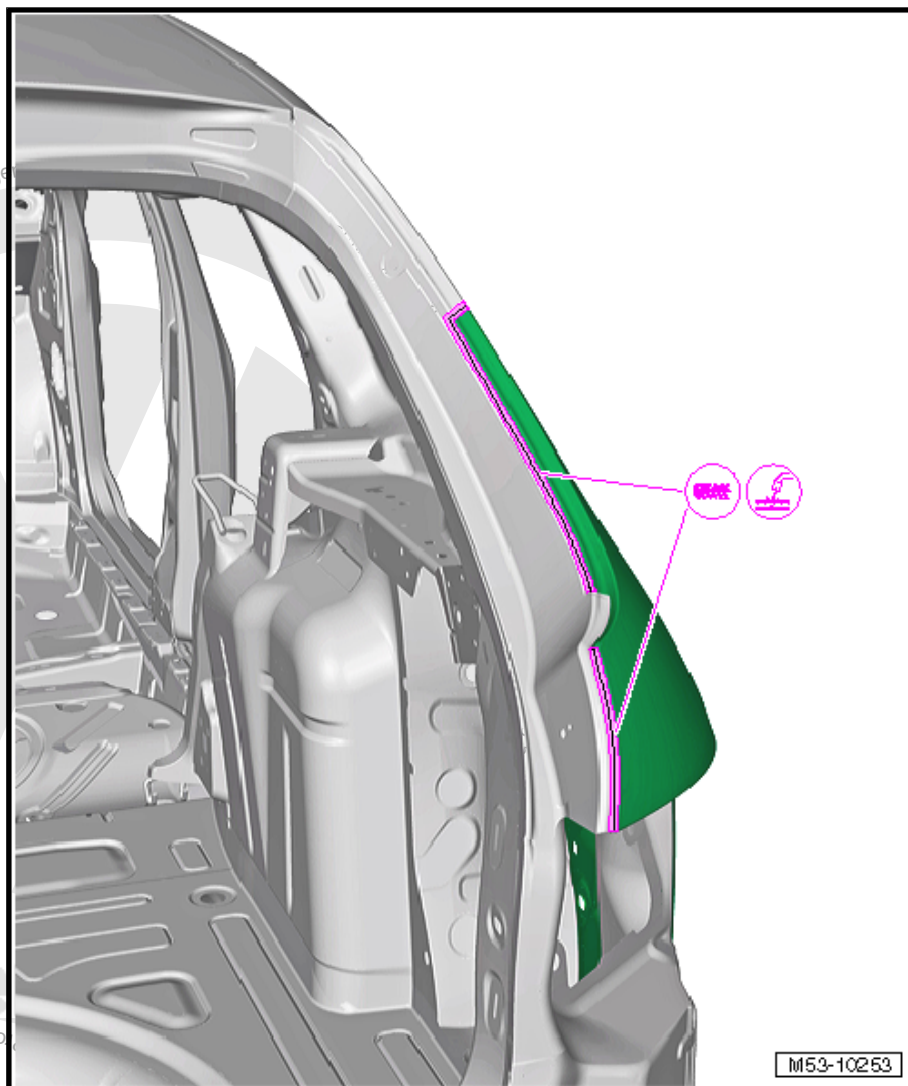
- Check fit with attachments.



- Apply 2K Body Adhesive - D 180 003 M2- (1 bead, approximately 4 mm) to the contact surface on the striker mount.
- Apply 2K Body Adhesive - D 180 003 M2- in the wheel arch adhesion area (1 bead, approximately 4 mm diameter).
- Apply Butyl Adhesive Sealing Cord - AKD 497 010 04 R10- or 2K Polyurethane Adhesive - D 180 KD2 A1- in the areas -1-.



- Weld in side panel, straight-line spot weld seam.
- Weld the separation cuts, either with MIG soldered seam or a gas-shielded arc continuous weld seam.
- Weld the side panel in the tail lamp mount area using a gas shielded arc plug weld seam.
- Flange the wheel arch flange.
- Wipe off escaping adhesive and seal the wheel arch.



- Weld the joint on the sealing channel, optional MIG-L stitch weld seam/gas-shielded arc continuous weld seam.



RO: 53 69 55 50

## 11 Outer Wheel Housing Liner, Replacing

⇒ ["11.1 Tools", page 288](#)

⇒ ["11.2 Removing", page 289](#)

⇒ ["11.3 Installing", page 292](#)

Includes: Fuel Cap Insert Cup (only on the right side of the vehicle)



### WARNING

*Follow all safety precautions.*

Refer to ⇒ General Information; Body Repairs, Body Collision Repair

- Side panel already removed, refer to  
⇒ ["10 Side Panel, Replacing Partial Section", page 278](#)
- The sill panel (partial section) is already removed, refer to  
⇒ ["10 Sill Panel, Removing and Installing", page 180](#).



### Note

*To provide a better illustration, the fuel filler cap insert cup is not pictured. It can be loosened from the separated wheel housing liner and reused if necessary.*



1 - C-Pillar Reinforcement

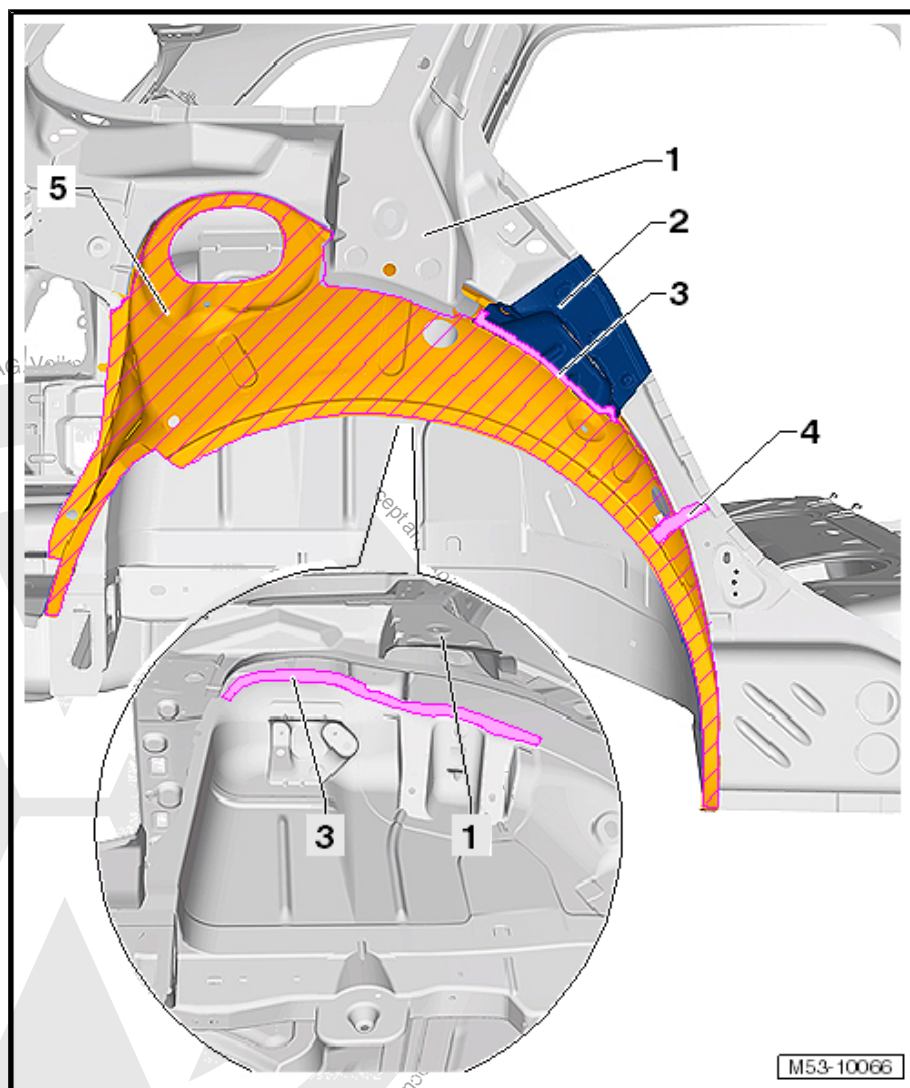
2 - Striker Pin Mount

□ Do not need to be removed

3 - Glued Area

4 - Molded Foam Piece

5 - Outer Wheel Housing Liner



## 11.1 Tools



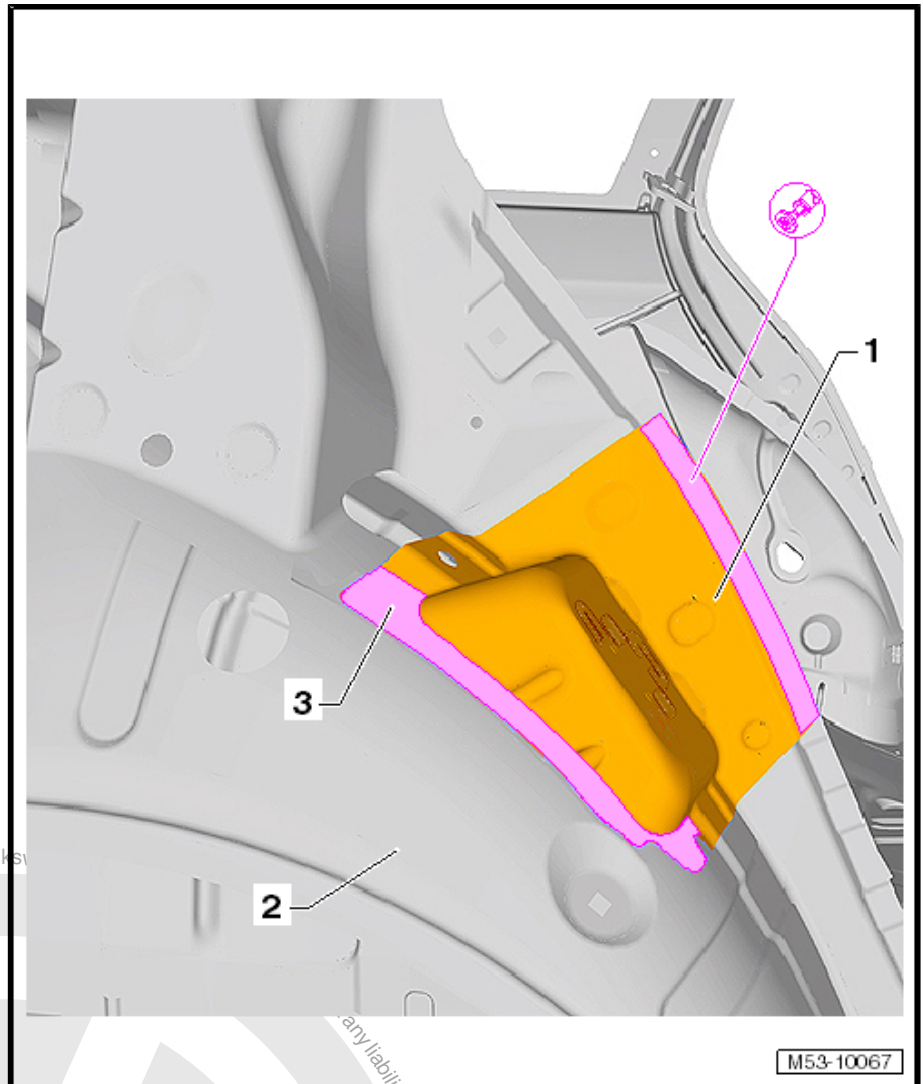
### Note

- ◆ Due to the different types of steel and material strength, use only welding equipment approved by Volkswagen AG to perform any service work.
- ◆ For a list of welding equipment and body tools approved by Volkswagen AG, refer to Workshop Equipment Catalog.



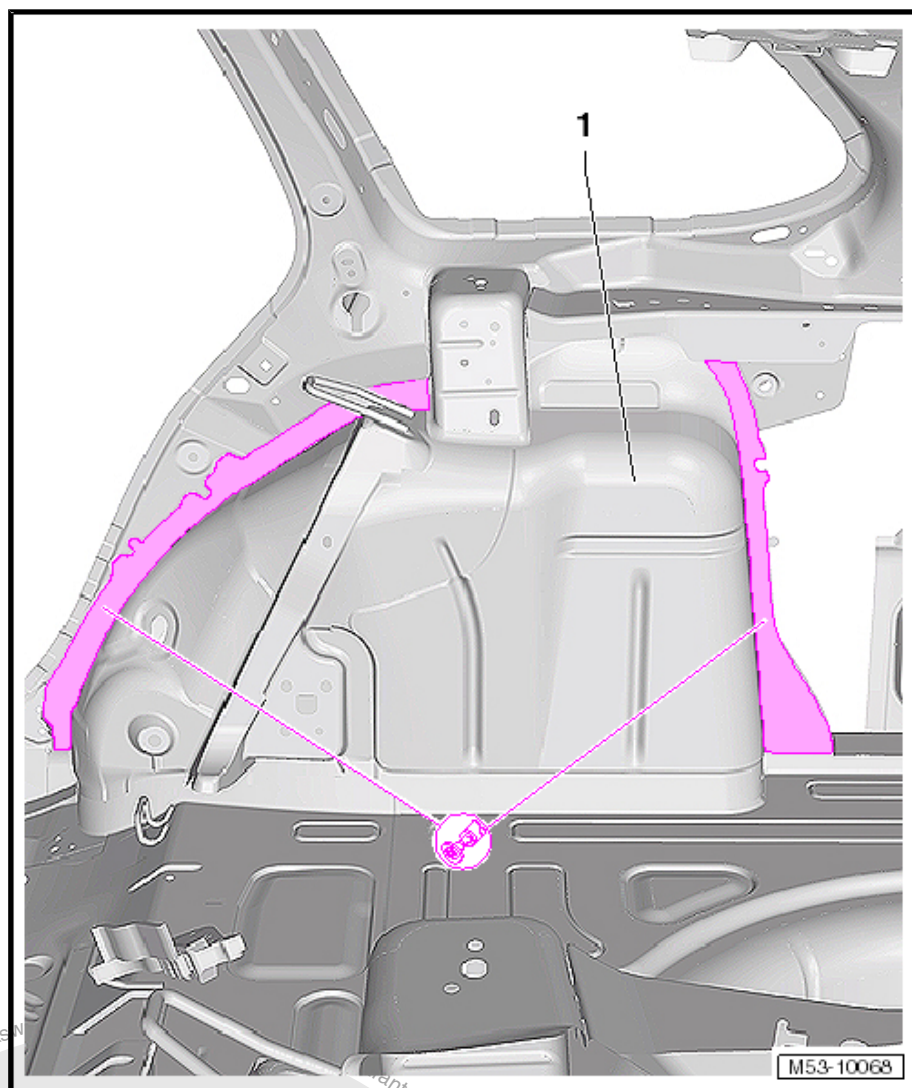


## 11.2 Removing

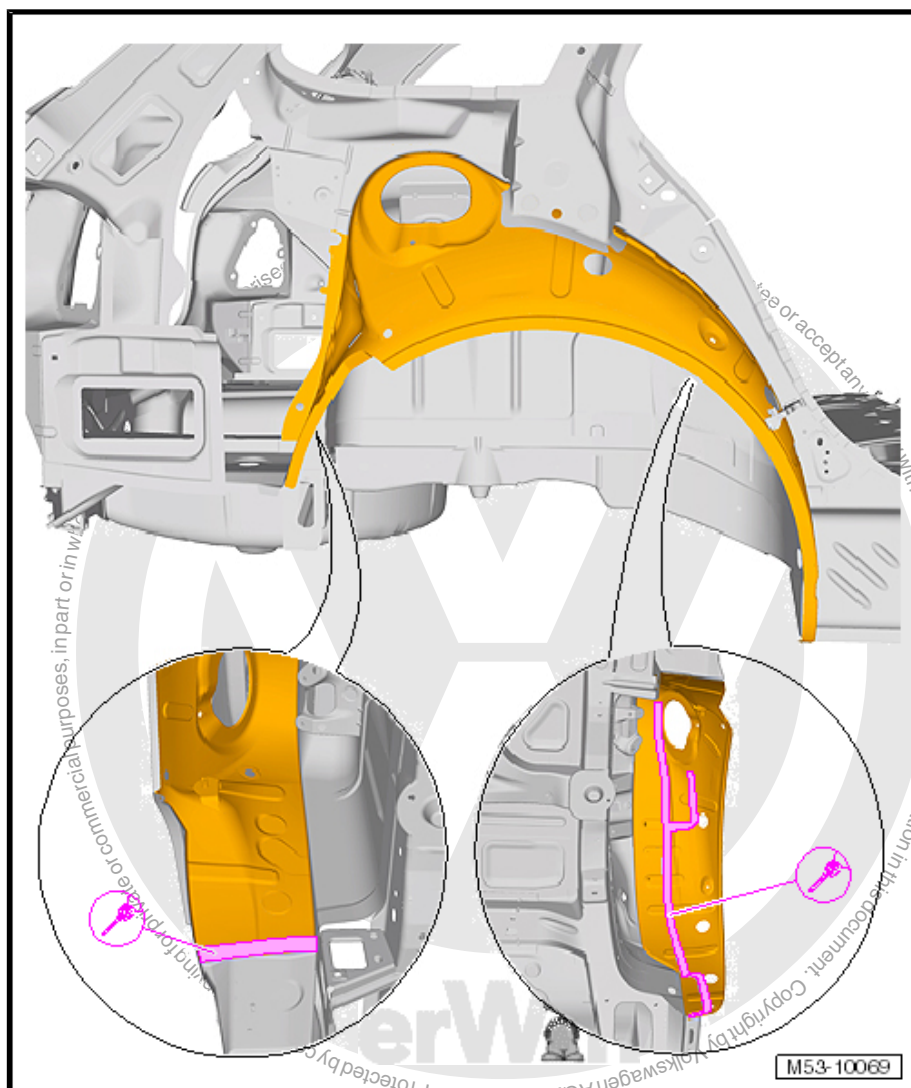


- Loosen the striker mount original connection -1-.
- Separate the adhesive connection -3- to the outer wheel housing liner -2- and remove the striker mount -1-.

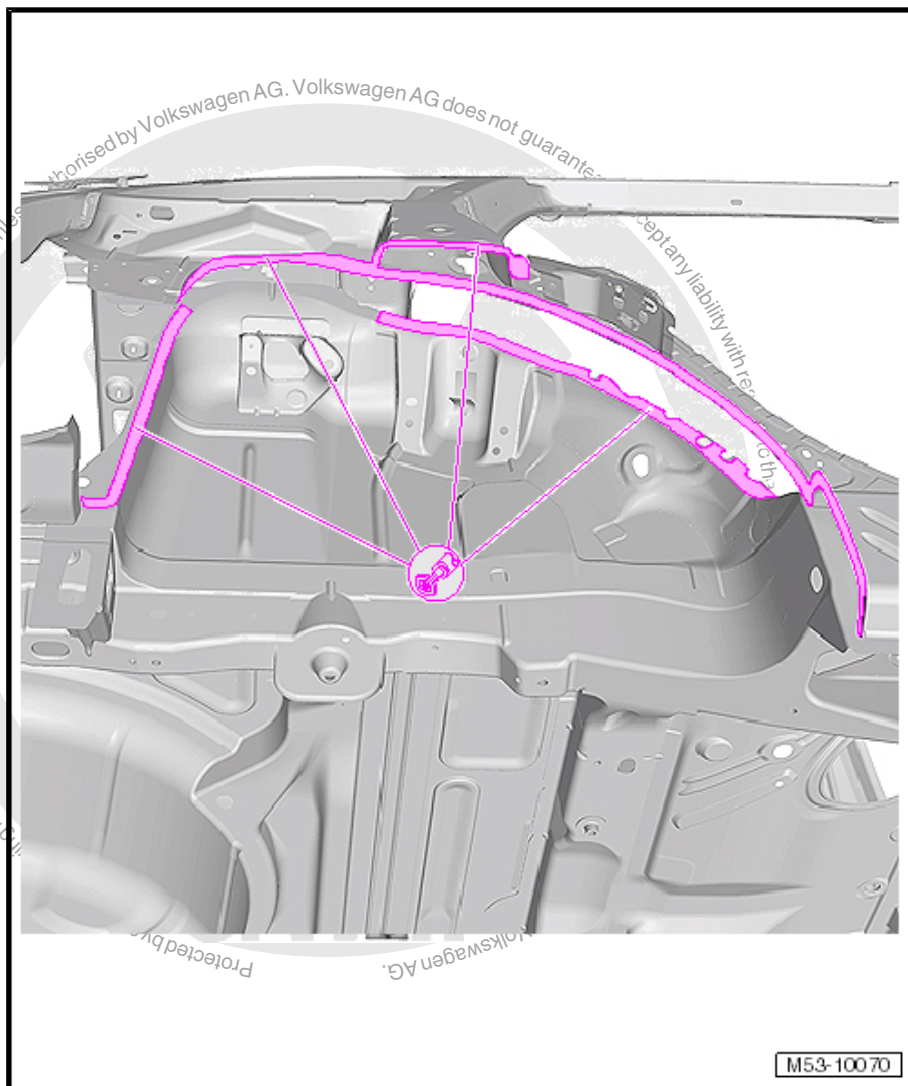




- Loosen the original connection to the inner wheel housing liner  
-1-



Separate original joint.



- Remove residual material.
- Completely remove adhesive remains and grind bonding surfaces down to bare metal.
- Apply corrosion protection to the adhesive surfaces, which will not be welded, refer to Paint Repair Manual, Corrosion, Attachments and Welded Parts, Materials.
- Lightly sand the adhesive surfaces in the connection.

## 11.3 Installing

⇒ [“11.3.1 Preparing New Parts”, page 293](#)

⇒ [“11.3.2 Welding”, page 293](#)



### Note

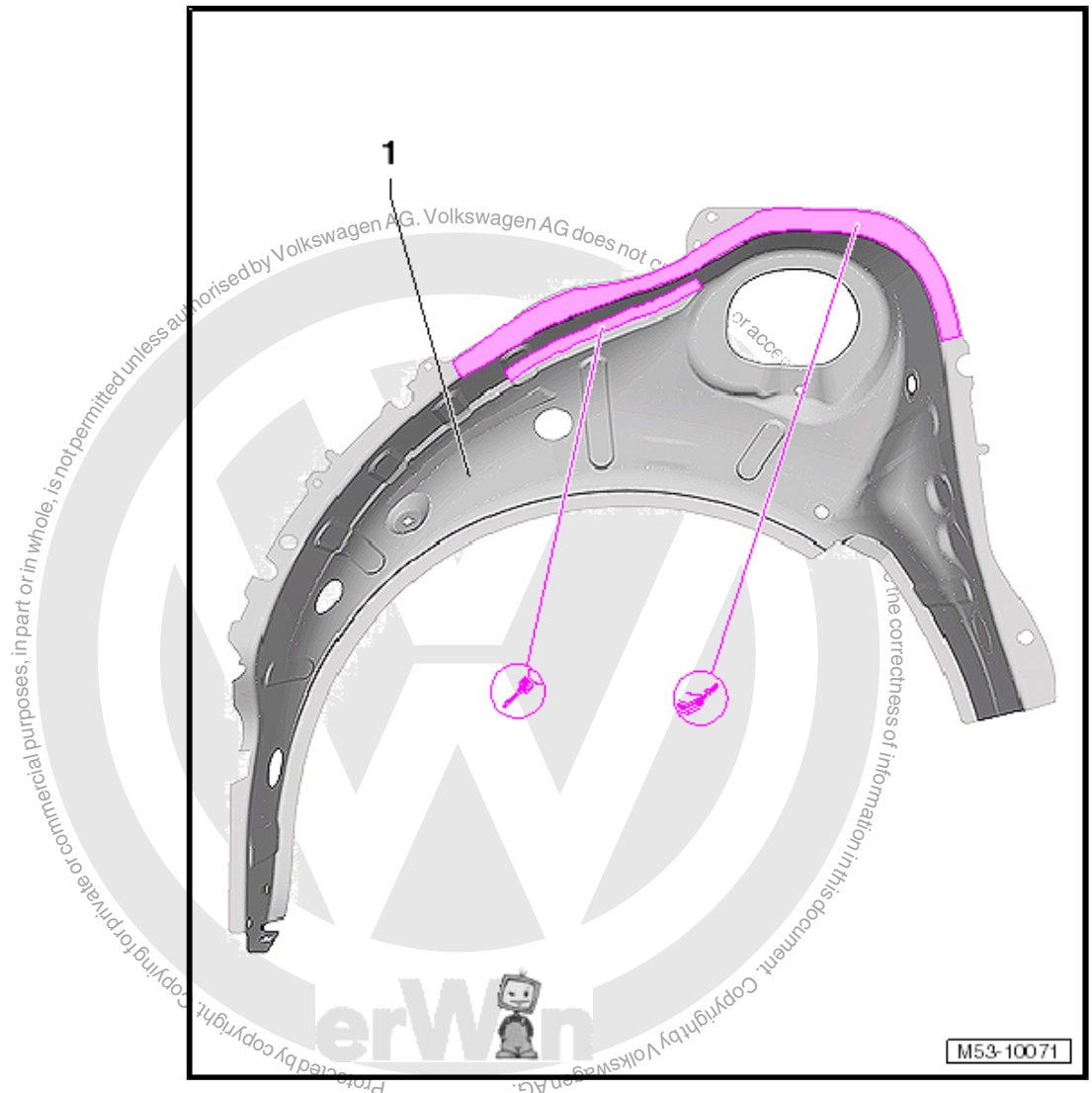
*Use only welding equipment approved by Volkswagen AG, refer to ⇒ [“11.1 Tools”, page 288](#).*



### 11.3.1 Preparing New Parts

#### Replacement Part

- ◆ Outer wheel housing liner
- ◆ Tank lid insert cup
- ◆ Striker pin mount
- ◆ 2K Body Adhesive - D 180 003 M2-



- Drill 7 mm holes for the gas-shielded arc plug weld seam in the outer wheel housing liner -1- near the C-pillar reinforcement.
- Apply 2K Body Adhesive - D 180 003 M2- in the area where adhesive was applied during production.

### 11.3.2 Welding



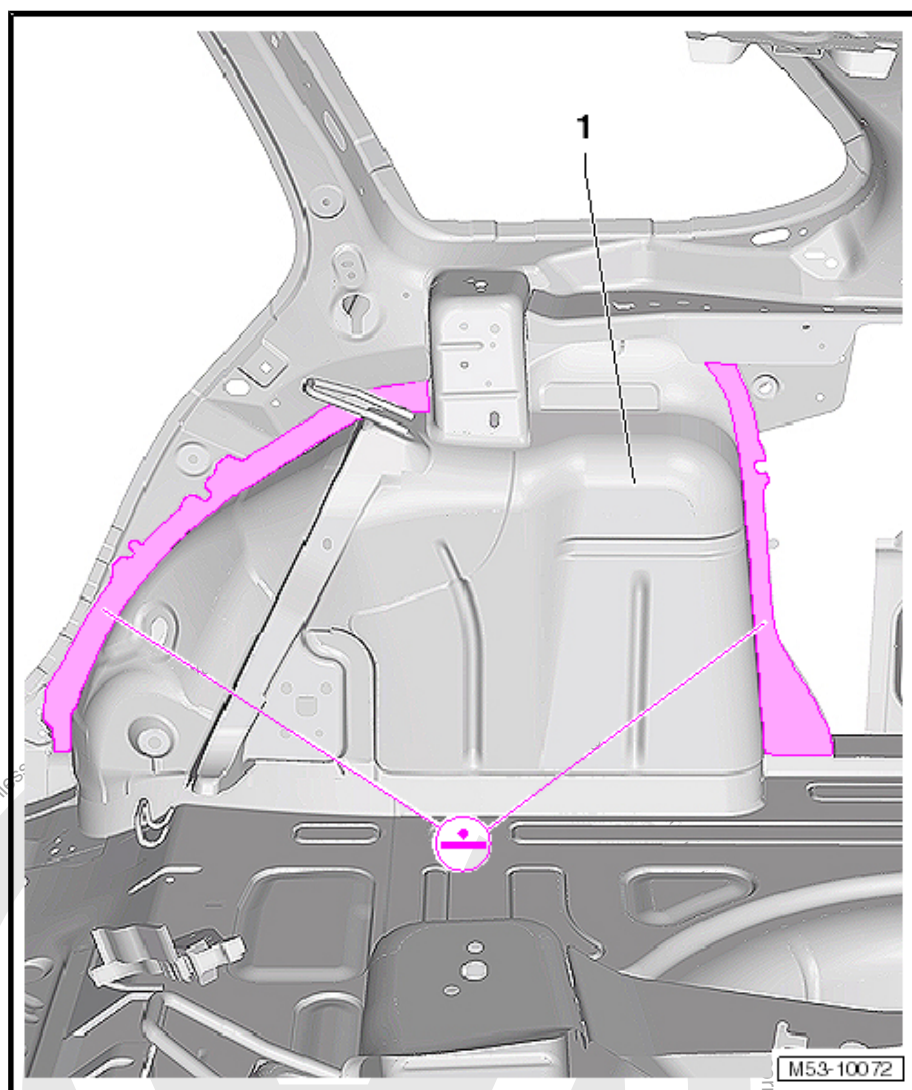
#### Note

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*

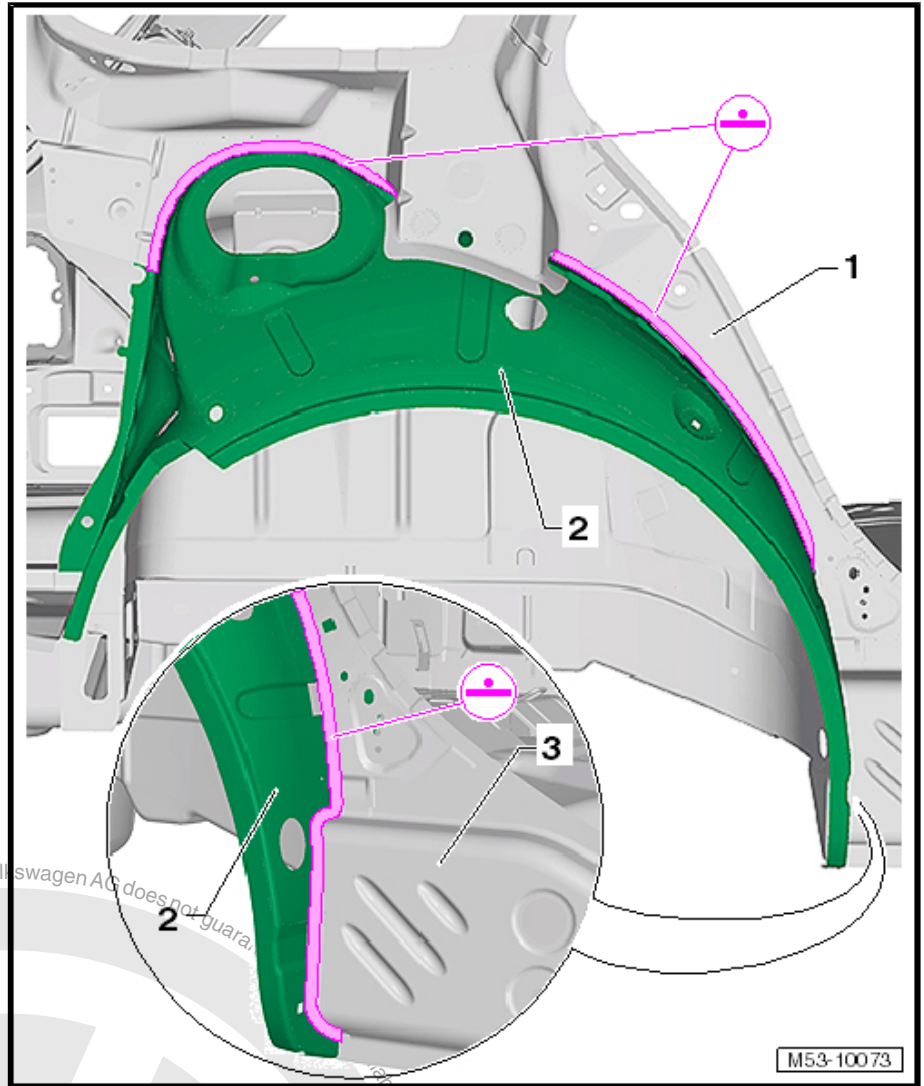




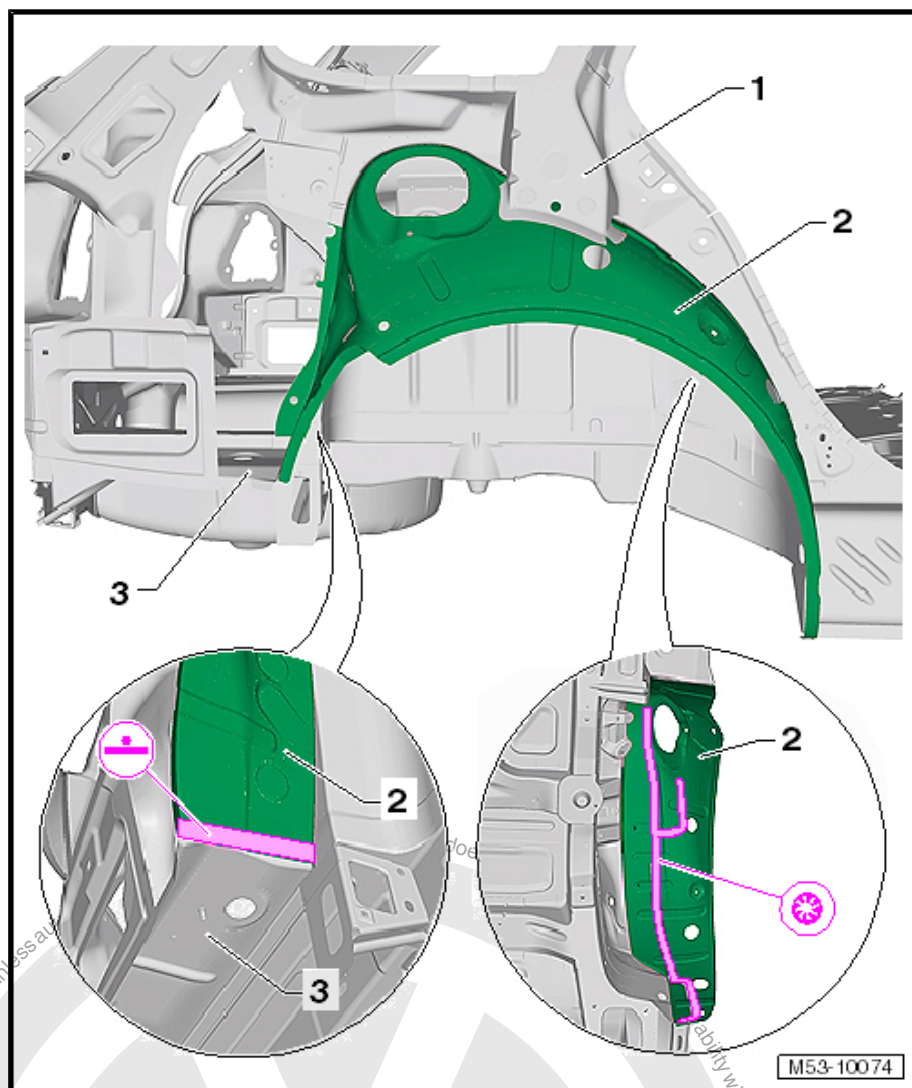
- Install new part with vehicle standing on the alignment bracket set and affix it in place.
- Check fit with side panel.



- Weld the outer wheel housing liner with the inner wheel housing -1-, straight line spot weld seam.



- Weld the outer wheel housing liner -2- with the rear sill panel reinforcement -3- and the inner side panel -1- using a straight-line spot weld seam.



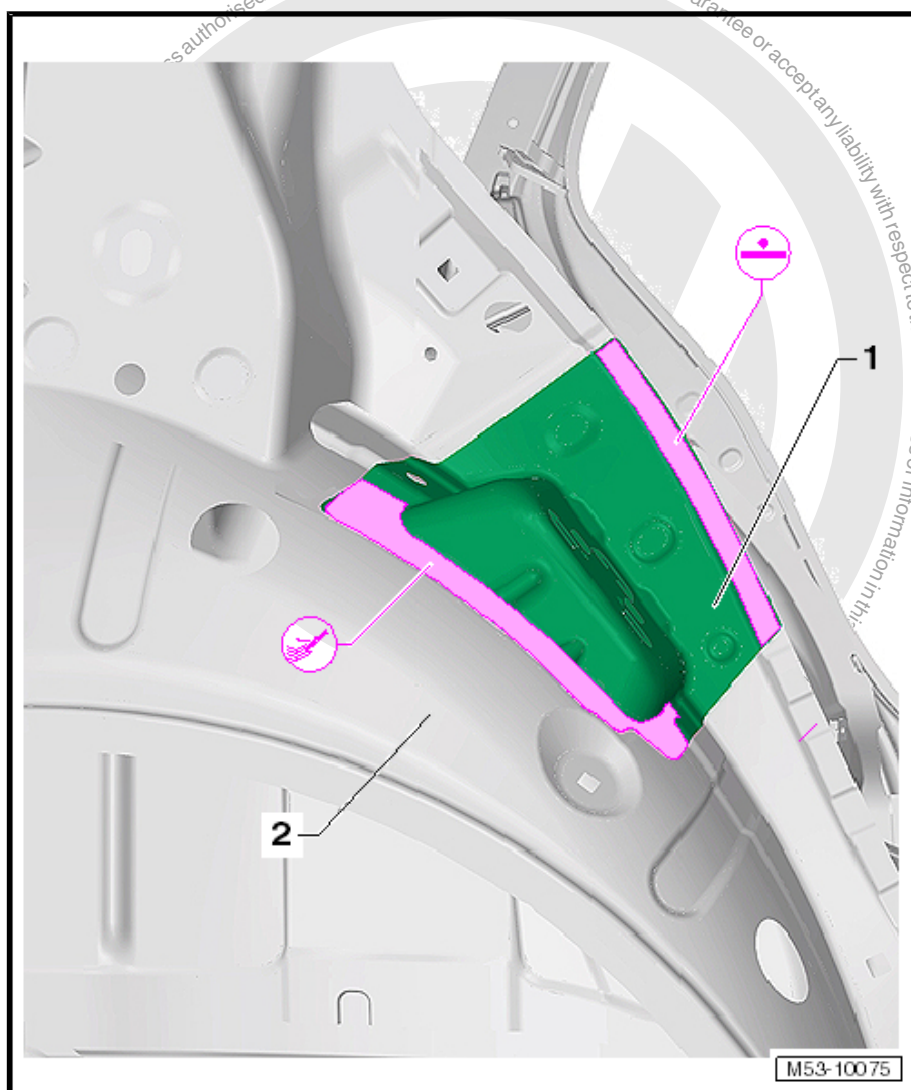
- Weld the outer wheel housing liner -2- in the C-pillar reinforcement area -1-, gas shielded arc plug weld seam.
- Weld the outer wheel housing liner -2- with the rear cross panel -3-, straight line spot weld seam.



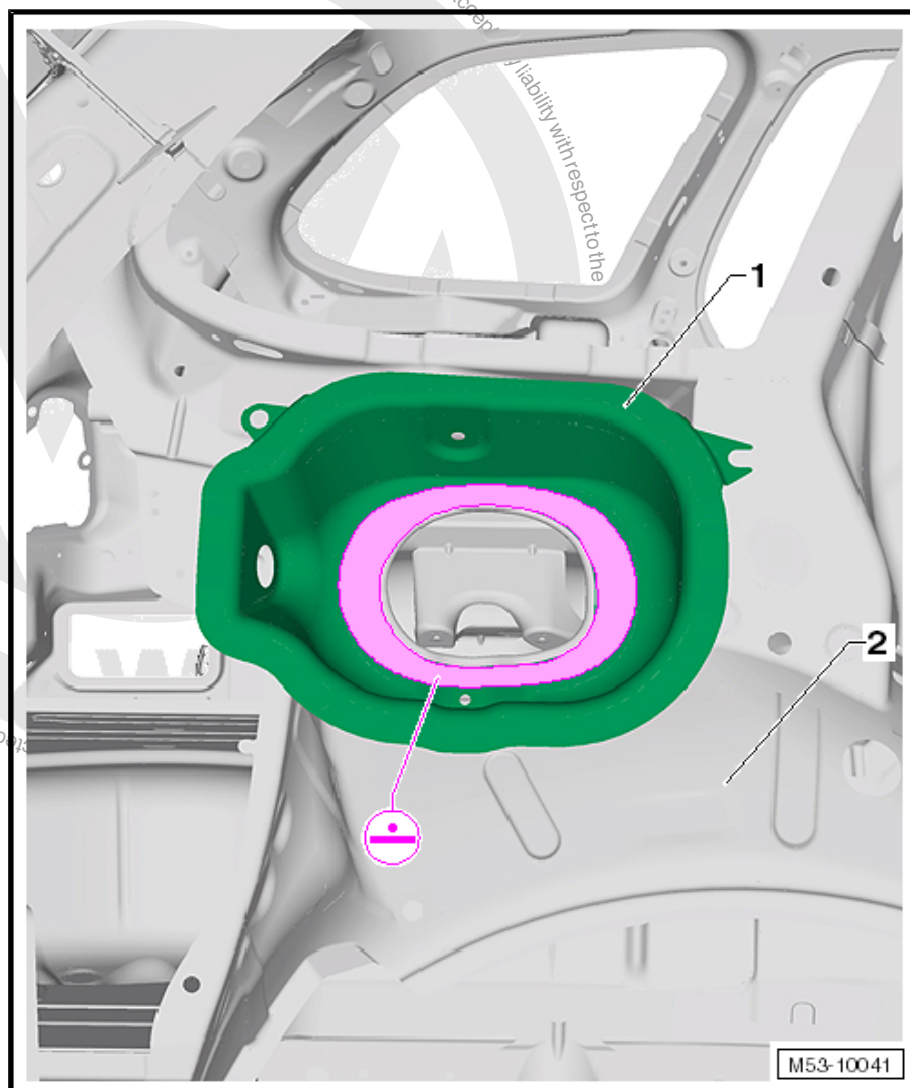
**Note**

*New part must be installed within 90 minutes, otherwise bonding properties of adhesive will be impaired.*





- Apply the 2K Body Adhesive - D 180 003 M2- in the area of the factory-made bond between the striker mount -1- and the outer wheel housing liner -2-.
- Weld the striker mount -1-, straight line spot weld seam.



- Apply 2K Body Adhesive - D 180 003 M2- in the area where the adhesive on the fuel filler cap insert cup -1- was applied during production.
- Recreate the original connection to the outer wheel housing liner -2-, straight line spot weld seam.
- Install the side panel, refer to [⇒ "10.3 Installing", page 281](#) .

Edition K0059076421 FU 09/5/2014 - JLH



## 12 Revision History

Re- vi- sion	Date	Job Type	Feedback #	Notes	Editor
3					
2					
1	9/5/ 2014	Factory Up- date	N/A		Jim Harder



# Cautions & Warnings

**Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.**

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

# Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

# Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

**I have read and I understand these Cautions and Warnings.**